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JOHN L. FARLEY, DIRECTOR

COMMERCIAL FISHERIES REVIEW

A review of developments and news of the fishery industries
prepared in the BRANCH OF COMMERCIAL FISHERIES

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Mailed free to members of the fishery and allied industries. Address correspondence and requests to the: Director, Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, D. C.

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COVER: Kuroshio Maru No. 21, Japan's most advanced type of tuna vessel operating in the Indian Ocean between Ceylon and Madagascar. Six smaller catcher boats are carried on the vessel's deck to the fishing grounds, and in addition the vessel is equipped with long-line fishing gear which is fished directly from her own deck. (See pp. 33 and 34 of this issue.)

CORRECTION: February 1956, inside cover page, legend for cover photo should have stated: "The annual ex-vessel value of sea-scallop landings is about $10 million."

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COMMERCIAL FISHERIES REVIEW

April 1956 Washington 25, D.C. Vol. 18, No. 4

CONDITION OF THE MIDDLE ATLANTIC POUND-NET FISHERY

By Fred C. June*

BACKGROUND

For over 100 years pound or trap nets were one of the principal means of exploiting the various migratory food fish stocks which inhabited the shallow waters along the middle Atlantic Coast during the warm months of the year. More recently, however, this gear has become of minor importance among the commercial fisheries within this region, and in some localities it has disappeared completely. Of the 14 fishing companies which operated an estimated total of 45 pound nets in the vicinity of Ocean City, Md., during the 1920's, there is not a single one remaining. In August 1953 the last nets fishing in the vicinity of Wildwood, N. J., were taken from the water. For many years five pound-net companies operated out of Sea Isle City, N. J. By 1954 their number had been reduced to three. It is of interest, biologically and economically, to consider the possible factors which have contributed to this condition.

Taking fish from a pound net in Chesapeake Bay using a dip net operated by the power winch aboard the vessel.

LANDINGS INDICATE CHANGE IN YIELD

Although not completely documented, published records of total yield furnish a rough measure of the change which has taken place in the pound-net fishery in the middle Atlantic region (table 1). In 1939 pound nets accounted for roughly 25 percent of the total fish production in New York and New Jersey. In 1951 this gear contributed less than 14 percent of the catch in those states. In figure 1 are plotted combined landings for New York and New Jersey for the period 1939 through 1951. It may be seen that, apart from annual fluctuations, a downward trend in catch had its beginning in 1944 when the catch dropped 8½ million pounds, or nearly 20 percent, below that of the preceding year. By 1949 the catch was only one-half that reported 10 years earlier. From table 1 it may be seen that this trend was but a

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reflection of the condition of the New Jersey fishery which in 1944, similarly, showed a 20-percent decrease in yield. The most significant change in the New York fishery during this period occurred in 1947 when the catch fell below 3½ million pounds, or less than 40 percent of the previous year. The downward trend continued in both states until 1951. The marked increase in yield in that year was attributable to increased landings of menhaden (Brevoortia tyrannus). This species alone accounted for over two-thirds of the catch in 1951 and roughly three-fourths of the annual catches from 1952 through 1954. 1/

Table 1 - Pound-Net Landings in New York and New Jersey, 1939-1951

Year	New York	New Jersey	Total
	(1,000 Lbs.)		
1951	4,906	40,093	44,999
1950	3,026	15,127	18,153
1949	2,848	21,993	24,841
1948	2,915	24,170	27,085
1947	3,403	28,724	32,127
1946	5,647	1/	1/
1945	6,646	30,684	37,330
1944	5,753	30,948	36,701
1943	6,402	38,880	45,282
1942	6,197	37,611	43,808
1941	1/	1/	1/
1940	8,383	30,229	38,612
1939	7,327	39,107	46,434

1/ Data unavailable.

While a downward trend in pound-net production was evident in the entire middle Atlantic region commencing about 1944, the decline was most precipitous in certain restricted coastal areas. In figure 2, for example, are plotted pound-net landings at Ocean City, Md., from 1944 through 1953. Apart from annual fluctuations, most significant, perhaps, was the sudden drop in 1951 when the catch fell below 100 thousand pounds, or about one-twentieth of that reported seven years earlier. The 1953 catch amounted to only a few thousand pounds, and in August of that year the nets and pilings were removed from the water.

SPECIES COMPOSITION OF THE POUND-NET FISHERY

The decline in importance of the pound-net fishery in the middle Atlantic region, variously, has been attributed to a decrease in abundance of the migratory food-fish stocks, changes in hydrographic conditions which adversely have affected availability, pollution in our coastal waters, competition from other gears, such as the otter trawl--to mention but a few diagnoses.

Discussions with pound-net operators and examination of their catch records suggest, however, that this decline in importance was due primarily to the downward fluctuations in availability or abundance of the valuable food-fish stocks upon which the fishery was dependent. For example, from 1939 through 1951 about a dozen species accounted for over 95 percent of the annual pound-net production in this area. Although the individual species rank often shifted markedly from year to year, some of the more important food fishes included: butterfish (Poronotus triacanthus), gray sea trout or weakfish (Cynoscion regalis), porgy or scup (Stenotomus versicolor), whiting (Merluccius bilinearis), croaker (Micropogon undulatus), and mackerel (Scomber scombrus).

In table 2 are given the pound-net landings of these selected species in New York and New Jersey during the period 1939 through 1951. It may be seen that in 1939 their combined yield amounted to nearly 39 million pounds, or about 62 percent of the total pound-net production in these states. However, in 1951 they accounted for slightly over 7 million pounds, or roughly 16 percent of the catch. Although a downward trend is evident for all 6 species, most significant, perhaps, was the sudden drop in landings of croaker in 1945 and a similar decline of scup, whiting, and mackerel in 1947. By 1947 butterfish landings also had decreased by by nearly 7.5 million pounds from the 1939 level. During the period 1939 through 1945, the combined annual yield of croaker, whiting, and mackerel averaged over

1/ Estimates for 1952-54 based on incomplete records.

10.5 million pounds. However, from 1947 through 1951, their combined yield averaged slightly over one million pounds.

In contrast to the downward trends of these valuable food fishes, there has been a steady increase in landings of unremunerative food species and industrial fish.

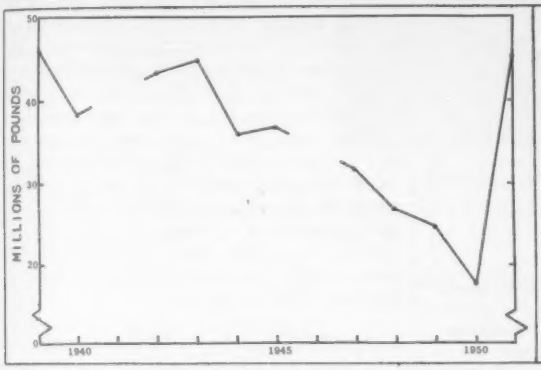


Fig. 1 - Pound-net landings, New York and New Jersey, 1939-1951.

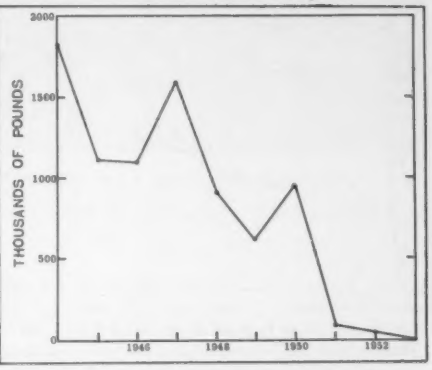


Fig. 2 - Pound net landings, Ocean City, Md., 1944-1952. (Source: Maryland Board of Natural Resources, Department of Research and Education.)

For example, in 1939 pound-net landings of menhaden in New York and New Jersey amounted to slightly over 8.5 million pounds, or less than 19 percent of the catch. In 1951 landings of this species totaled over 32 million pounds, or 72 percent of the catch (table 2).

Table 2 - Pound-Net Landings in New York and New Jersey of Selected Species, 1939-1951

Year	Butterfish	Croaker	Scup	Weakfish	Whiting	Mackerel	Total Food Fish	Menhaden
	(1,000 Lbs.)							
1951	3,762	-	1,621	927	586	149	7,045	32,298
1950	370	1	1,268	650	416	357	3,062	10,812
1949	1,293	5	1,109	1,096	467	777	4,747	13,352
1948	948	144	1,552	1,562	256	505	4,967	16,082
1947	1,029	632	616	4,062	1,915	297	8,551	13,508
1946	1/	1/	1/	1/	1/	1/	1/	1/
1945	2,736	496	1,104	3,600	6,329	2,515	16,780	11,573
1944	2,917	2,142	1,458	2,124	3,751	3,831	16,223	12,338
1943	6,060	2,518	2,402	2,413	5,753	1,804	20,950	13,540
1942	2,934	2,653	2,567	3,536	5,848	2,418	19,956	11,515
1941	1/	1/	1/	1/	1/	1/	1/	1/
1940	5,990	2,969	1,810	2,958	5,950	2,325	22,002	5,877
1939	8,483	3,070	1,874	5,488	7,087	2,863	28,865	8,638

1/ Data incomplete or unavailable.

Figure 3 is a recapitulation of the change in species composition which has taken place during the period 1939 through 1951. Arbitrarily included among the so-called "trash" and industrial fish are menhaden, cusk (Brosme brosme), skates (families Rajidae, Dasyatidae, and Rhinopteridae), sea robin (Prionotus sp.), herring (Clupea harengus), squirrel hake (Urophycis chuss), white hake (Urophycis tenuis), sharks (families Sphyrnidae, Carcharhinidae, Alopiidae, Carchariidae, and Isuridae), anglerfish (Lophius americanus), tautog (Tautoga onitis), conger eel (Conger oceania), wolffish (Anarhichas lupas), swellfish (Sphaeroides maculatus),

alewife (Pomolobus pseudoharengus), dogfishes (families Squalidae and Triakidae), kingfish (Menticirrhus saxatilis), pilotfish (Naucrates ductor), squid (Loligo pealii), and horseshoe crab (Limulus polyphemus). It may be seen that the percentage composition of the above listed species has risen nearly threefold over the 13-year period. Also, it must be noted that the quantities of these species by no means are proportional to their occurrence in the catches. If there is no immediate market for these fishes, usually, they are discarded at sea or at the landing docks and, thus, are not accounted for in catch records. Industrial, nonfood, and other low-priced fish provide additional income during good seasons of valuable food-fish production, but the pound-net fishery cannot be maintained on the basis of these alone.

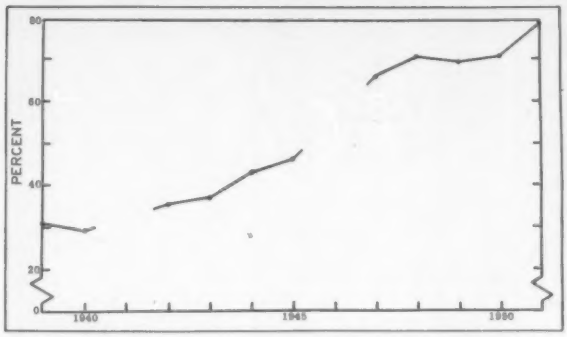


Fig. 3 - Pound-net landings of industrial fish in New York and New Jersey, 1939-1951--percentage of total pound-net landings.

CAUSES OF FLUCTUATIONS

Causes of the fluctuations in availability and abundance of these various fish stocks are little understood. Unfortunately, the biology and life histories of many of the migratory species which support our coastal fisheries are too imperfectly known to permit the application of intelligent measures for their management and maximum utilization. Whether the simultaneous decline of the several important food species was due to adverse environmental conditions during certain stages in their life histories, or whether overfishing was responsible, are propositions which cannot be answered in the light of present biological knowledge. The influence of environmental factors on behavior and migrations, the interrelations of the various species on the summer feeding grounds, and the abundance of the various species populations in relation to their fisheries can only be surmised at present. However, these factors must be considered if the problem of fluctuations is to be understood.

Of further significance has been the increased importance of mechanized gears, such as the otter trawl, which exploit the same fish stocks as the pound nets. In 1939, for example, there were 194 resident trawl vessels operating in the middle Atlantic area. Eight years later their number had risen to 337. Competition from this more efficient gear probably has had a depressing effect on pound-net production. During seasons when food fish were abundant, pound nets were able to compete effectively with the draggers, and the fishermen enjoyed a profitable share of the catch. However, during periods of scarcity, pound-net fishermen were unable to adjust their operations to changing conditions in the fishery. As a result, many have been forced either to operate on a marginal level of profit, or stop fishing. On the other hand, the more versatile trawl fishermen were able to successfully adjust their fishing activities to the seasonal and long-term changes in availability and abundance of various species and, thus, have been able to operate at a profit. Furthermore, progressive changes in fishing methods and equipment have increased the efficiency of the trawl fleet.

Introduction of the electronic depth-recorder and the radiotelephone have opened up new fishing grounds for the trawlers and increased valuable fishing time. In contrast, few improvements have been inaugurated either in the operation or construction of pound-net gear. The large 25- to 30-pole rigs still require 7 to 9 men on a basis of 3 or 4 hours work each day over 6 or 7 months of the year. It is unlikely that any commercial fishery could operate profitably on a labor expenditure

of less than one-quarter day per man, especially during periods of low fish abundance. Smaller units of gear could be operated more efficiently and economically. Rigs with 8 to 10 poles and minimum-sized pockets could be handled by 2 or 3 men, thus reducing operating costs and increasing the per capita return. Smaller units also would enable the fishermen to operate more gear and thus permit fishing to be extended over a greater area. Finally, smaller nets probably would survive storm damage more effectively and thus permit their operation over a longer period of the year.

Trawlers or draggers tied up for unloading at Hampton, Va.

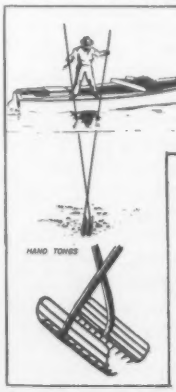
CONCLUSION

What about the future?

There are indications that several of the migratory food-fish populations are on the increase along the middle Atlantic Coast. Total landings of scup, bluefish (Pomotomus saltatrix), fluke (Paralichthys dentatus), gray sea trout showed an increase in 1953 and 1954. However, there is no assurance that an increased abundance of these species would be of direct benefit to the pound-net fishery. Unless the factor of availability operates favorably, the pound-net fishermen face an uncertain future.

HAND TONGS USED TO HARVEST OYSTERS IN FLORIDA

The legal mechanical device for the taking of oysters in Florida is the hand tongs. This consists of two modified rakes, joined by a pivot located about one-third of the way between the rake and the shaft ends. The teeth range in number from 10 to 14, and serve to tear the oyster free from the bottom attachment. A basketlike enlargement of the teeth serves to hold large numbers of oysters until they can be brought to the surface. Tongs used in Florida range from 10 to 16 feet long.



Tongs are lowered in the water in the open position, with the shaft ends three to four feet apart. When the rake reaches the bottom the oysterman works the shafts back and forth until he can close the tongs by bringing the shafts together. The tongs are then hauled, hand over hand, to the surface and the oysters are released on deck.

--Sea Secrets, The Marine Laboratory, University of Miami, Coral Gables, Fla.

SCHOOL LUNCH FISH-COOKERY DEMONSTRATIONS IN OKLAHOMA

By Robert P. Seifert*

A series of fish-cookery demonstrations for the lunchroom personnel of the Oklahoma schools was presented during the spring of 1954 by the U. S. Fish and Wildlife Service. A total of 36 demonstrations were given in cooperation with the Oklahoma School Lunch Division and the U. S. Department of Agriculture, for 1,600 managers, cooks, and workers representing 632 schools throughout the State. Nearly 120,000 children are fed daily in these schools, which have a total enrollment of over 220,000.

The purpose of these demonstrations was threefold: (1) to encourage greater use of fishery products in the school lunchrooms of the State, (2) to show lunchroom personnel improved or varied methods of preparing fish, and (3) to encourage use of a wider variety of fishery products.

To determine the effectiveness of these demonstrations in achieving these objectives, a survey was made of the use of fish in the schools before and after the demonstrations. The month of October was chosen as a representative period for the survey. Accordingly, individual school menus on file in the State School Lunch Division office were checked for October 1953 (a sample month before the demonstrations). The menus for 359 schools which had personnel attending a fish-cookery demonstration, and 205 schools not represented at any demonstration, were checked. The 205 schools not represented were used as a control in the survey.

Today's children are tomorrow's consumers. Encouraging the use of fishery products in school-lunch programs will yield dividends in the future.

Similar demonstration programs in many other states have increased the use of fish in schools approximately 50 percent. However, the results in Oklahoma did not follow this trend. As shown in Table 1, Oklahoma schools represented at the demonstrations showed a decrease of 8 percent in their frequency of fish use after the demonstrations. In October 1953, which was before the program began, it was found that their use of fishery products averaged 1.3 times per month--about the same as the schools of most inland states which have had no special encouragement to use fish in their lunchrooms. In October 1954, or after the program was completed, their use of fish was only 1.2 times per month.

However, in making the survey, the use of fish in schools not represented at the demonstrations, and presumably not otherwise influenced in their use of fish, was also checked. It was found that for the same comparative periods, as shown in Table 1, their use of fish had declined 28 percent, i.e., from 1.1 times per month to 0.8 times per month.

The decline in the quantity of fish consumed, computed on the basis that one serving of fish contains approximately 2 ounces, was practically the same as the frequency of use. It should be noted here that the smaller average poundages of

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fish shown consumed by the schools not represented, as compared to those which were, is caused by a difference in the size of the schools in the two groups. Since practically all of the larger schools were represented at one of the Service demonstrations, it was necessary in the control group to use schools which were, on the average, smaller in size.

Table 1 - Results of Oklahoma School Lunch Fish-Cookery Demonstrations

Item	Times Fish Were Used Per Month Per School			Average Amount of Fish Used Per Month Per School		
	Demonstration		Percentage Change	Demonstration		Percentage Change
	Before	After		Before	After	
	No.	No.	%	Lbs.	Lbs.	%
For Schools:						
Represented	1.3	1.2	- 8	28.0	26.1	- 7
Not Represented. .	1.1	.8	-28	18.4	13.1	-29

Because the declines in the use of fish after the demonstrations were so unusual, it appeared likely that there must be some other factors which had influenced the choice of menus in the Oklahoma schools during the period surveyed after the demstrations of fish cookery.

The Oklahoma School Lunch Program Director and his supervisors stated that the reason for the general decline in the use of fish in the schools was because of the large quantity of beef, beans, and cheese which had been distributed to the schools in the fall of 1954. This distribution of free protein-rich food was so ample that the schools could, if they chose, virtually eliminate the buying of any other "main dish" ingredient. Data obtained from the State Director of Commodity Distribution bore out the comments of the School Lunch Director and supervisors. A total of $213,034 worth of beef, cheese, and beans were distributed free to the Oklahoma schools during August, September, and October of 1953. However, in the same months of 1954, $650,043 worth of beef, cheese, and beans were distributed in this three-month period. Thus, triple the amounts of free commodities were available to the schools from the Department of Agriculture. The distribution of beef alone in August, September, and October of 1954 was nearly three times as much as all of the commodities distributed in the first three months of the 1953 school year. Under these circumstances it is somewhat surprising that the schools used as much fish as they did in 1954. The fact that the decline in the use of fish was held, in those schools represented at a demonstration, to only 8 percent is indicative of the value of the demonstrations to the schools, especially since nonrepresented schools showed a 28-percent decrease in their use of fish or a 2.5 times greater decline than the first group of schools.

Influencing the frequency with which fish is used in the schools is not the only purpose of the demonstrations. Various methods of preparation are also demonstrated. In the Service's demonstrations, emphasis is placed on methods by which fish can be prepared in the oven, since schools usually have more oven space than they have top-of-the-stove space as would be needed for pan-frying fish. It was noted in the survey that preparation of oven-fried fish proportionately tripled and baked fish doubled in those schools represented at a demonstration.

Table 2 - Relative Use of Fish, October 1954

Species	Percent
Salmon, canned . . .	38
Tuna, canned	32
Fillets, frozen . . .	29
Mackerel, canned . .	1
Total	100

In the demonstrations, the use of both canned and frozen fish is shown. Canned salmon and tuna, frozen fillets (principally ocean perch and cod), and canned mackerel, in that order, were found to be most popular in the Oklahoma schools before the demonstrations and remained in that order of popularity afterwards. However, an increase in the use of frozen fillets was noted as an apparent result of the work

done. This is understandable since the people of inland areas are often found to be a little skeptical of frozen fish unless some extra effort is made to point out the advantages for using the frozen product. Table 2 shows the percentages of various kinds of fish chosen for their menus by the Oklahoma school lunch managers in October 1954.

Table 3 - Percentage of Fish Served Per Day

Day	Percent
Monday	9.6
Tuesday	10.5
Wednesday	11.7
Thursday	11.7
Friday	56.5
Total	100.0

Friday is still "fish day" in the Oklahoma schools. Fish are served more often on that day than on all the other days combined (table 3).

In this summary of the fish-cookery demonstrations in Oklahoma, the State School Lunch Division should be given special credit for the excellent cooperation which all of its personnel extended to the Service's Home Economist and Fishery Marketing Specialist conducting the demonstrations and survey in the State. Credit should also be given the School Lunch Division personnel for their efforts in following through on the material presented at the demonstrations. At their annual workshops, and in their monthly bulletins, they have consistently included mention of fishery products. Fish can reasonably be expected to enjoy much greater use in Oklahoma as a result of the State's and Service's work whenever beef and other protein-rich foods are not so amply distributed as free commodities.

BLACK PEARLS

A Kobe, Japan, pearl dealer, after several years of experiments, recently announced success in a process by which light pearls are made black. His process remains secret but it is understood to be based on his discovery that the core and the outer layers of pearls have different heat expansion coefficients. The outer layers are loosened from the core substance under heat after which a pigment is forced into a small hole drilled in the pearl. The pigment seeps evenly between the core and the outer layers of the pearl. It is claimed that the pearl thus treated does not lose its lustre. The Kobe dealer reports that European dealers have responded enthusiastically to the new product.

--U. S. Consulate Dispatch,
Kobe, Japan, July 8, 1954.

A POSSIBLE QUALITY INDEX FOR FISH MEAL

Both producers and users of fish meal need a quick laboratory method to indicate the relative nutritive value of fish meals. At present variations in the nutritive value of meal as affected by raw material, processing, and storage variables are best determined by animal-feeding tests requiring from 10 days to several weeks to complete. The possibility of developing a chemical method for this purpose is being studied at the Service's Seattle Technological Laboratory.

One phase of the project is a study of the dye-adsorption properties of the protein in fish meal in relation to the nutritive quality. Although investigations of this type have been reported for vegetable protein, no definite method has been reported that might be used as a quality index for fish meal. Thus, the first step was to develop a technique.

After testing dyes representative of the major types, four dyes have been shown to be promising. These were orange G and orange II in acid solutions and congo red and tetrabromophenol blue in alkaline solutions. With this phase completed, exploratory work is being done on the adsorption by meals prepared from a number of species of fish. The results of the dye-adsorption tests will be compared with results of chick-feeding tests run by collaborative workers. These comparisons will determine whether any correlation exists between the nutritive value of the fish meal and the dye adsorption by the protein in the meal.

PROGRESS REPORT ON PROCESSING AND HANDLING SOUTHERN OYSTERS

The development of new processing methods to improve the quality of Louisiana oysters is being conducted at the Louisiana State University with funds provided by the Saltonstall-Kennedy Act of 1954. In recent tests they found that oysters packaged in cartons and overwrapped, frozen at 0° F. and stored at 0° F., are a very acceptable product after 6 months of frozen storage. Storage beyond 6 months resulted in the development of rancidlike odor and flavor and surface oxidation and discoloration.

Oysters that were packaged in cartons, frozen, and then glazed were an acceptable product after 8 months of storage at 0° F. From these results it appears that the ice glaze protects the surface from oxidation and discoloration.

Of all the methods of packaging which were tried, oysters which were vacuum-packed, frozen, and stored at 0° F., resulted in the best product. After 4 months of storage, taste-panel scores for this product were higher than for other methods of packaging. They were also less fragile after thawing.

The effects of washing on the quality of oysters were also studied. Investigation revealed that oysters washed in a 0.65-percent salt solution and glazed or frozen in this solution produced slightly less drip upon thawing during the first 6 months of storage than oysters washed in the salt solution and glazed with water. Washing with or glazing with a salt solution instead of water resulted in slightly higher salt content in the oyster meats, but they had a better flavor, perhaps because of the higher salt content.

PUBLIC MEETINGS ON FISH STICK STANDARD

Fishery officials of the Fish and Wildlife Service held a series of public conferences in eight key cities from March 2 to April 5 to consider proposed standards for grading frozen fried fish sticks.

As an important part of its technological research program, the Service has been engaged for some time in the development of voluntary Federal standards for fishery products. Service technologists, with the active cooperation of the fish-stick producers, have prepared the provisional draft of a voluntary standard. This is now ready for consideration by those who will be concerned with the application of the standard when it goes into effect.

Packing fried fish sticks in 8-oz. paper cartons in a leading fish-stick plant in Boston, Mass.

In addition to producers of frozen fish sticks, these meetings were of interest to raw-material suppliers, transportation agencies, cold-storage operators, wholesalers, retailers, and consumer groups, as well as the trade associations operating in these fields.

The meetings were opened with a very brief statement of the background of voluntary Federal standards, how they are being developed for fishery products, and who can use them to advantage. Comments from those in attendance were summarized by the Service representative presiding. Subsequent comments from the floor were likewise summarized. These discussions indicate what changes, if any, are needed in the standard.

Scheduled meetings were held in New York, N. Y.; Atlanta, Ga.; Dallas, Tex.; Los Angeles, Calif.; Seattle, Wash.; Chicago, Ill.; and Boston, Mass.; and Washington, D. C.

This project for the development of voluntary standards for fishery products is being financed by funds available through the Saltonstall-Kennedy Act which was passed in 1954 to help the free flow of domestic fishery products into the channels of trade.

Additions to U. S. Fleet of Fishing Vessels

A total of 17 vessels of 5 net tons and over were issued first documents as fishing craft during January 1956, according to the U. S. Bureau of Customs. This was 1 vessel less than the number reported for January of last year.

The Chesapeake area led all others during January 1956 with 5 newly-documented craft, followed by the South Atlantic area with 4, the Gulf area with 3, the Middle Atlantic area with 2, and the New England, Pacific, and Alaska areas with 1 each.

U. S. Vessels Issued First Documents as Fishing Craft, January 1956 and Comparisons

Area	January 1956	January 1955	Total 1955
		(Number)	
New England	1	-	18
Middle Atlantic	2	1	13
Chesapeake	5	4	54
South Atlantic	4	4	65
Gulf	3	3	103
Pacific	1	2	117
Great Lakes	-	-	9
Alaska	1	4	35
Hawaii	-	-	3
Virgin Islands	-	-	1
Total	17	18	418

Note: Vessels have been assigned to the various areas on the basis of registered home ports.

American Samoa

TUNA VESSELS REPORTED LANDING BIG CATCHES: The 1955 winter fishing season by the American Samoan tuna fleet, based at Pago Pago, appears to be very successful, according to the Pacific Islands Monthly, an Australian monthly magazine. The tuna vessels have brought in large catches from the water east of Fiji, and also from areas around the Cook Islands. Some record catches were reported which may be due to the long periods of dry clear weather.

California

SARDINE CATCH INCREASED IN 1955/56 SEASON: Landings by California's fishing fleet totaled about 75,000 short tons during the season which closed February 1, 1956, according to preliminary reports received by the California Department of Fish and Game. The 1955/56 catch increased about 12 percent over the 67,000 tons landed in the 1954/55 season.

Both the 1955/56 and the 1954/55 catch totals could have been exceeded considerably had there not been wage and price disputes and some adverse market conditions.

In both fishing seasons the catch represented sardines migrating north from Mexican waters, with practically none caught north of Morro Bay. Virtually none were landed at Monterey, and the fish processed there were trucked north from southern California. The catch was good in the Santa Barbara and Port Hueneme areas early in the season and later spread south as far as Oceanside.

Cans--Shipments for Fishery Products, 1955

Total shipments of metal cans for fish and sea food during 1955 amounted to 110,191 short tons of steel (based on the amount of steel consumed in the manufacture of cans), compared to 109,202 short tons for 1954.

Since the packs of canned tuna, Maine sardines, and salmon in 1955 were lower than in 1954, the greater shipments of cans in 1955 were for stock purposes rather than meeting current packing needs.

Note: Statistics cover all commercial and captive plants known to be producing metal cans. Reported in base boxes of steel consumed in the manufacture of cans, the data for fishery products are converted to tons of steel by using the factor: 23.0 base boxes of steel equal one short ton of steel.

Federal Purchases of Fishery Products

FRESH AND FROZEN FISHERY PRODUCTS PURCHASED BY THE DEPARTMENT OF DEFENSE, JANUARY 1956: The Army Quartermaster Corps during January 1956 purchased for the use of the U. S. Army, Navy, Marine Corps, and Air Force a total of 1.1 million pounds (valued at $0.7 million) of fresh and frozen fishery products. This was a decline of 39.2 percent in quantity and 16.9 percent in value as compared to December 1955 purchases. Compared with January 1955, the drop was 47.8 percent in quantity and 13.3 percent in value.

Purchases of Fresh and Frozen Fishery Products by Department of Defense (January 1956 and January 1955)

QUANTITY		VALUE	
January		January	
1956	1955	1956	1955
(Millions of Lbs.)		(Millions of $)	
1.1	2.1	0.7	0.9

Prices paid for these fishery products by the Department of Defense in January 1956 averaged 68.7 cents a pound as compared with 43.7 cents in December 1955 and 41.4 cents a pound in January 1955. This would indicate that that January 1956 purchases consisted of higher-priced fishery products.

In addition to the purchases of fresh and frozen fishery products indicated above, the Armed Forces generally make some local purchases which are not included in the above figures.

* * * * *

VETERANS ADMINISTRATION 1956 REQUIREMENTS FOR CANNED FISH: Among the estimated requirements of the Veterans Administration for canned fruits, vegetables, and fish to be procured for 1956 are the following canned fish items:

Descriptions	Can Size	Dozen Cans
Salmon, red or sockeye	No. 1	30,000
Salmon, red or sockeye with sodium content restricted to not more than 60 mg. per 100 grams	No. $\frac{1}{2}$	7,000
Tuna, chunk	No. 1	18,000
Tuna, chunk, with sodium content restricted to not more than 50 mg. per 100 grams	No. $\frac{1}{2}$	8,000

Invitations for bids will be issued by the General Supplies Section, Procurement Division, Supply Service, Veterans Administration, Washington 25, D. C., at a later date.

Fish and Wildlife Motif on United States Postage Stamps

For the first time, United States postage stamps this year will be used to call attention to the country's important fish and wildlife resources, Secretary of the Interior Douglas McKay said February 29.

The United States is one of the few major countries in the world that has not given recognition to fish and wildlife as a motif of postage-stamp design, according to the Secretary. Although conservationists and interested stamp collectors started a movement in 1949 for a "wildlife on stamps" series, they met with no success. However, when the matter was brought directily to the attention of President Eisenhower last September he immediately recommended that such stamps be issued to create and maintain greater public interest in the country's natural resources.

The stamp is 0.84 by 1.44 inches in dimension, arranged horizontally with a single outline frame. The color of the stamp has not been determined as yet.

As already announced by the Post Office Department, the subject matter for the three stamps will be the pronghorn antelope, king salmon, and wild turkey.

Selection of the designs and responsibility for their authenticity was delegated to the Fish and Wildlife Service by the Post Office Department. Robert W. Hines, chief illustrator of the Service and noted wildlife artist, made the drawings for the stamps.

The designs selected by the Service--representing a mammal, a bird, and a fish--have been chosen because they are three different species of typical American wildlife and because they offer outstanding examples of conservation work carried on by the Federal and State Governments.

All three of the stamps will be in the 3-cent denomination. Places and dates of first-day sale will be announced later by the Post Office Department.

The new stamps are expected to be tremendously popular not only with conservationists but with topical stamp collectors, Secretary McKay said.

The Postmaster General announced March 7 that the first of the three stamps being issued to emphasize the importance of Wildlife Conservation in America will be released at Fond du Lac, Wis., on May 5, 1956. This special 3-cent stamp will be first placed on sale on the occasion of the convention of the Wisconsin Federation of Stamp Clubs.

Groundfish Fillets--United States Production and Imports

United States Production and Imports of Groundfish Fillets, 1940-55

Year	Production	Imports
	(Million Pounds)	
1955	1/110.0	129.0
1954	122.4	137.5
1953	112.3	89.7
1952	132.6	107.4
1951	148.8	87.6
1950	136.6	64.8
1949	140.1	47.3
1948	137.8	54.0
1947	115.5	35.1
1946	126.7	49.3
1945	126.4	43.2
1944	108.8	24.5
1943	87.3	16.3
1942	105.4	16.7
1941	122.8	9.9
1940	91.4	9.7

1/ Estimated.

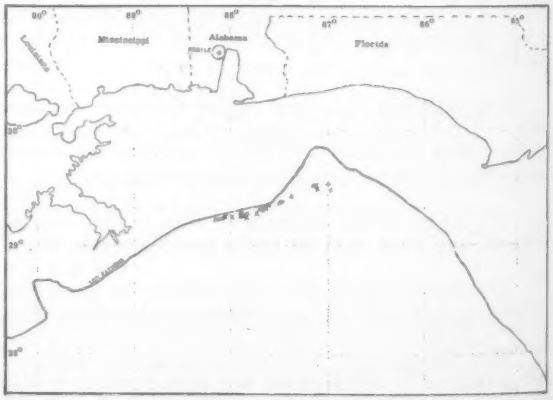
The United States production of fresh and frozen groundfish (including ocean perch) fillets in 1955 was estimated at 110.0 million-pounds--10.1 percent less than in 1954 and 26.1 percent less than the record production of 148.8 million pounds in 1951. Included in the production data for 1954 and 1955 is the production of fillet blocks and slabs, the raw material used to manufacture fish sticks.

United States imports of fresh and frozen groundfish (including ocean perch) fillets and steaks has risen steadily from 9.7 million pounds in 1940 to a record peak of 137.5 million pounds in 1954, and a slight drop to 129.0 million pounds in 1955. Also included in the data for 1954 and 1955 are the imports of fillet blocks and slabs used by United States producers to manufacture fish sticks.

Gulf Exploratory Fishery Program

DEEP-WATER TRAWLING FOR RED SHRIMP BY "OREGON" (Cruise 36): A two-week red shrimp trawling trip (Cruise 36) off the coasts of Mississippi, Alabama, and western Florida was completed by the Service's exploratory fishing vessel Oregon on February 28.

In general, shrimp catches were considerably smaller than those made in this same area last fall. A total of 26 three- to five-hour drags caught 1,993 pounds of heads-on red shrimp (Hymenopenaeus robustus). In 17 of these drags, 1,800 pounds were caught. Nine of the drags resulted in bogging of the trawls or ripped netting. The 1,993 pounds of heads-on shrimp yielded 1,100 pounds of heads-off shrimp which ran 25-30 count.



M/V Oregon trawling stations (x), Cruise 36.

Fishing operations were conducted in depths of 200-275 fathoms with the most productive drags made in 215 fathoms adjacent to 88° west longitude. Three consecutive drags in this area caught 575 pounds of red shrimp. Weather conditions at this point forced discontinuance of fishing operations for the balance of the cruise. A total of seven days of fishing time were lost due to adverse weather.

Whiting and hake were the predominant incidental noncommercial species in all of the catches. From 100 to 800 pounds of these two species were taken in each tow. The individual fish varied in weight from ½ pound to 2 pounds.

The Oregon was scheduled to leave Pascagoula March 20 on a 4-week tuna long-lining trip (Cruise 37) in the north-central and southwestern Gulf of Mexico. In March and April 1955, while the Oregon was engaged in deep-water shrimp exploratory work, a marked decline in the catch rate of yellowfin tuna was noted by the commercial vessels that were experimenting with long lines in the northeastern Gulf. The primary objective of this cruise will be to obtain comparative catch information for the early spring season between these two areas.

Maine

SARDINE TECHNOLOGICAL RESEARCH PUSHED AT UNIVERSITY OF MAINE: The work on several projects of technological research on Maine sardines at the University of Maine (Orono, Me.) is progressing at a good pace, reports the Maine Sardine Industry in a February 10 news release. The purpose of the research is to help Maine sardine canners improve their products and processes.

The researchers are well along on at least a dozen projects covering such matters as salt and moisture determination, best methods of preparing mustard and tomato sauces, efficient cooking times and temperatures, vacuum-packing, types of pack, temperatures in connection with cans of different sizes and thicknesses, flavor and texture, advantages of various types of oil and sauce, as well as other factors involved in the production of sardines.

Most of the work is being done in a recent additon to Holmes Hall, headquarters of the Experiment Station, and it is being financed by the Maine Sardine Council with funds derived from a 25-cents-a-case Maine State tax paid by all packers.

While visiting the laboratories, Council Chairman Ralph Stevens of Yarmouth stated that the research was needed by the industry to help it to compete with the thousands of other items being made available to the consumer in the nation's retail food stores. He predicted that the program would provide canners with information and improved techniques "that will be extremely valuable to all of us in the long run."

A staff, headed by the industry's Assistant Research Director Ralph Berglund, is utilizing standard factory equipment, such as retorts and sealing machines, with frozen fish, taken from Casco Bay last summer, as they attempt to unravel a variety of problems assigned to them. The packing operation is only one phase of the over-all program which has been functioning since last spring on a cooperative basis with Dr. Matthew Highland's Department of Food Processing of the Agriculture Experiment Station.

Marketing Prospects for Edible Fishery Products, January-June 1956

United States civilian per capita consumption of fishery products during the next 3 to 4 months is expected to be a little below that of a year earlier. January 1 stocks, which are the principal source of supplies until commercial landings start increasing seasonally, were much smaller than on the same date in 1955.

Imports in the next several months probably will be substantially the same as during the comparable period of 1955. Retail prices of fishery products until mid-spring are expected to average about the same or a little higher than a year earlier, reflecting in part the smaller supplies.

During 1955 civilians consumed a little less fish and shellfish per person than in 1954. The consumption rate for the fresh and frozen products were up a little, but this increase was more than offset by the decline for the canned commodities. Retail prices of fishery products in 1955 averaged slightly lower than in the preceding year, judging from the Bureau of Labor Statistics wholesale price index.

The United States and Alaska commercial catch of edible fish and shellfish in 1955 was about 2 percent smaller than in 1954. The sharp decline in the catch of fish used for canning much more than offset the small increase in the total quantity marketed fresh or frozen. Because of reduced catch, the packs of canned salmon, Maine sardines, and tuna were each smaller than in 1954. The 1955 pack of canned salmon was the smallest since before World War I.

Commercial freezings of fish and shellfish in the United States and Alaska during 1955 totaled 315 million pounds, 4 percent more than a year earlier. Domestic cold-storage holdings of the frozen products at the end of 1955 amounted to 175 million pounds, 10 percent smaller than at the close of the previous year. The reduction in stocks reflects both heavier marketings and a lower level of imports of frozen groundfish blocks and fillets than in 1954.

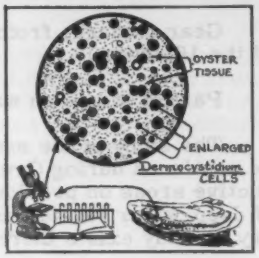
United States imports of fresh and frozen fishery products--excluding frozen tuna, which for the most part are subsequently canned--were more than in 1954. The moderate reduction in receipts of frozen groundfish fillets and blocks was more than offset by increases for fresh and other frozen fish. Our exports of fishery products were much larger in 1955 than a year earlier. Most of the increase occurred because of heavy shipments of canned California sardines abroad, particularly to the Philippine Republic.

This analysis appeared in a report prepared by the Agricultural Marketing Service, U. S. Department of Agriculture, in cooperation with the U. S. Fish and Wildlife Service, and published in the former agency's February 21, 1956, release of The National Food Situation (NFS-75).

Maryland

OYSTER PARASITE DISTRIBUTION STUDIED: The fungus parasite Dermocystidium marinum, which often invades oysters, is believed responsible for the oyster losses in certain areas of Maryland. It was discovered about six years ago by biologists studying the causes of oyster deaths in the Gulf of Mexico, the February 1956 Maryland Tidewater News of the Maryland Department of Research and Education reports. During the past several years its presence and association with the loss of oysters in the lower Chesapeake Bay has been established by the Virginia Fisheries Laboratory. The parasites are very tiny single cells about two ten-thousandths of an inch in diameter. As spores they are taken in by the oyster with its food and penetrate the walls of the digestive tract. They then multiply rapidly and are carried by the circulatory system to all parts of the oyster. Once within the oyster the parasite absorbs nourishment from the body fluids of the oyster and gradually dissolves the oyster tissues. In heavy infections they may cause large abscesses and ultimately the death of the oyster. Young oysters are resistant to the fungus and old oysters are most susceptible. Light infections may cause slow

growth and poor condition but do not kill oysters. However, as infection progresses to moderate and heavy, damage to the host becomes so great that it "gapes" and dies. Recent discovery of the parasite does not, of course, mean that it is new to the area in which it has been found. It is probable, in fact, that it has been present in oysters for many years.



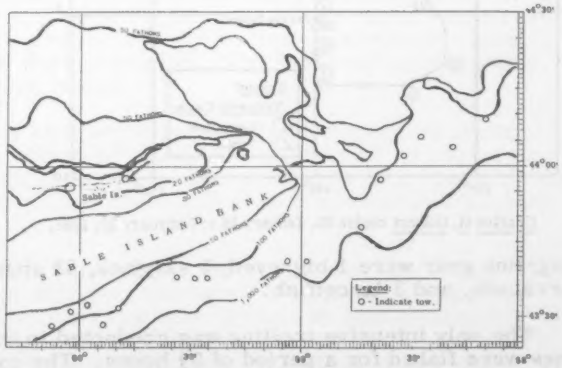
Although damaging to oysters, the yeastlike fungus is harmless to man and does not affect the flavor or nutritional value of oysters. The development in Texas during 1952 of a simple culture technique for the diagnosis of Dermocystidium infections has made possible large-scale surveys of its incidence in oysters. Small pieces of tissue are snipped from oysters and placed in tubes containing a nutrient medium. After several days of incubation at room temperature the tissue is removed from the tube and placed on a glass slide for microscopic examination. If fungus cells are present they will have enlarged to ten or more times their original size and can be stained blue with iodine which makes them easy to recognize. Since the parasites do not reproduce in culture, it is also possible to estimate the intensity of the infection by the number of stained cells present.

A survey is being made by the Chesapeake Biological Laboratory of the distribution of the fungus parasite among oysters in Maryland. Sample oysters have been collected from representative bars throughout the State and tested to determine whether, and to what degree they are infected with this fungus. High temperature and high salinity favor the development of the organism. Thus Dermocystidium infections typically show up in late summer in areas where the salinity is more than half that of sea water. Since a good portion of Maryland's oyster bars are in water less salty than this, they are relatively free from this disease. The pest has been found to be present in varying degrees of intensity on both sides of the Bay, roughly from the mouth of the Patuxent River southward. The study conducted in the fall of 1955 will be continued in order to evaluate the degree of infection where found, to determine the extent of infected areas in Maryland, and to establish the relationship of Dermocystidium infections to oyster mortalities and other factors influencing oyster populations.

North Atlantic Fisheries Exploration and Gear Research

OCEAN PERCH EXPLORATORY FISHING OFF SABLE ISLAND BY "DELAWARE" (Cruise 15): A "closer look" at the area east of Sable Island, Nova Scotia, where excellent catches of ocean perch (Sebastes marinus) were made on a previous trip (Cruise 9) was the primary purpose of Cruise 15 of the Service's exploratory fishing vessel Delaware. A combination of bad weather and uneven bottom resulted in only 16 drags being completed during this cruise, which was completed on February 17.

The best single catch was on February 10, at latitude 43°39'N.



M/V Delaware's Cruise No. 15 (Feb. 6-18, 1956).

longitude 59°16' W., when 7,000 pounds of ocean perch were taken in a 1-hour drag at an average depth of 200 fathoms. Average weight of the fish was 1.2 pounds.

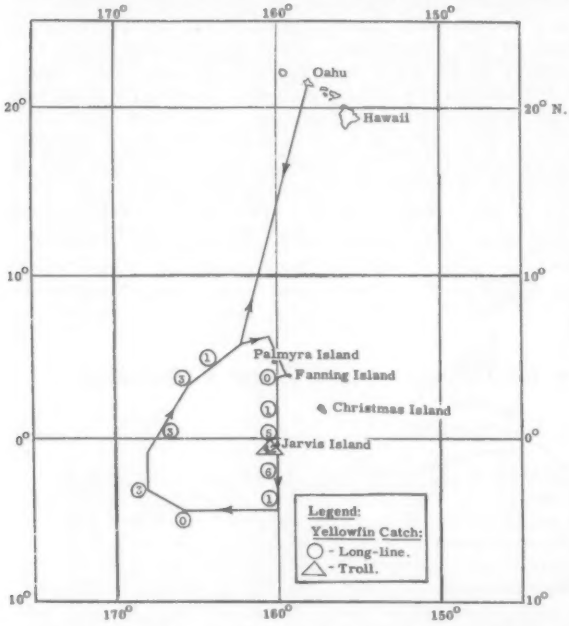
Gear damage, from small tears to the loss of all four wings, occurred on 10 of the 16 drags.

Part of the catch was iced in antibiotic ice for examination ashore.

The study of the seasonal availability of deep-water lobsters was scheduled to be continued during Cruise 16, with a repetition of exploratory tows made in productive areas on previous cruises. In addition, it was planned to expand the scope of deep-water lobster exploration to as far west as Hudson Canyon. A lobster fishery already exists there, but in relatively shallow water.

Pacific Oceanic Fishery Investigations

SONIC FISH FINDER USED BY "CHARLES H. GILBERT" TO LOCATE TUNA: Cruise 25: Search for tuna schools with a recently-installed radarlike long-range sonic fish finder was the primary objective of Cruise 25 of the Charles H. Gilbert, a research vessel of the Service's Pacific Oceanic Fishery Investigations. The vessel left Pearl Harbor on January 16 and returned to that port on February 13, 1956.



Charles H. Gilbert cruise 25, January 16 to February 13, 1956.

A complete sea test of the "Sea Scanar" was curtailed by a mechanical breakdown in the instrument on January 21. Prior to the breakdown, a number of small skipjack tuna schools were recorded on the instrument just north of Palmyra Island. These fish schools were all observed within 1,200 feet of the vessel (range of instrument 2,400 feet) and were accompanied by bird flocks.

A total of 10 long-line stations was occupied in the equatorial zone. At each station 40 baskets of 13-hook cotton gear was fished. Only 23 yellowfin tuna were caught on the long-line gear with the highest catch of 6 yellowfin made just south of Jarvis Island. As evidenced by the catches, there was a conspicuous lack of yellowfin in the area covered. Other fish taken on the long-line gear were 1 big-eyed, 5 skipjack, 38 sharks, 3 black marlin, 3 wahoo, 1 barracuda, and 3 lancetfish.

The only intensive trolling was conducted in the vicinity of Jarvis Island. Six lines were fished for a period of 5½ hours. The catch consisted of 42 yellowfin, 6 wahoo, 34 jacks, 2 rainbow runners, 1 snapper, and 2 sharks. Almost all the fish were caught alongside the reef which extends only a short distance from shore.

The recording thermograph was on continuously throughout the cruise. Two small temperature "fronts" (changes of 1 to 1½ degrees) were crossed at 1°02' N., 160°10' W. and 3°08' N., 165°21' W.

The vertical temperature distribution (from bathythermograph) showed a deep thermocline at about 600 feet in the equatorial belt. The isothermal and near isothermal water which extended often to this thermocline depth gave evidence of considerable mixing of the surface waters. It should be mentioned that strong easterly winds (exceeding 15 knots) were encountered through the two weeks spent south of 5° N. latitude.

Eight of the long line-caught and 25 of the troll-caught yellowfin were tagged with the California-type plastic tags.

Cruise 26: The vessel left Pearl Harbor February 23 for Cruise 26 and returned February 27. The stabilization tests showed that the starboard head was defective. Thus, only the port transducer was used during the remainder of cruise 26.

The "Sea Scanar" was tested on a school of skipjack tuna (average size 20 pounds) located 14 miles off Maile, Oahu. Fish traces were obtained only on the 600-foot scale with negative results on the 2,400-foot scale. Several strong unidentified echoes were obtained while running along the gear of a local long-line vessel.

Triplane tests showed that the tilt angle of the transducer did not coincide with that shown on the indicator panel.

A total of 95 skipjack were tagged with the California-type plastic tags and released on cruise 26.

* * * * *

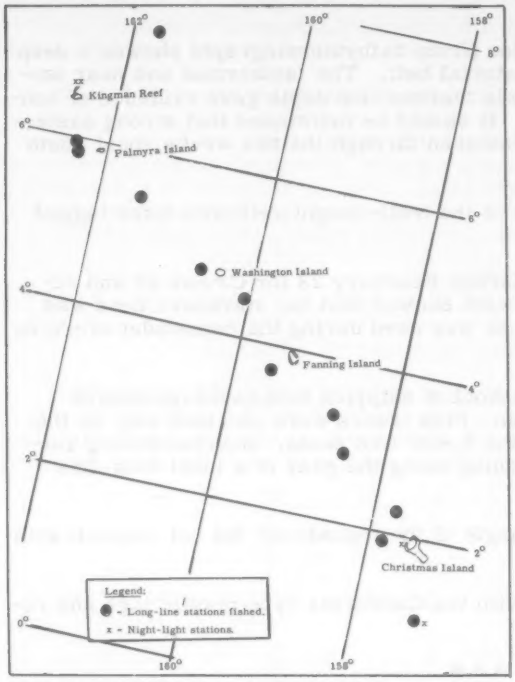
YELLOWFIN TUNA ABUNDANCE STUDIES IN LINE ISLANDS CONTINUED BY "JOHN R. MANNING" (Cruise 29): In order to obtain information on the abundance of yellowfin tuna in the Line Islands area, the Service's Pacific Oceanic Fishery Investigations vessel John R. Manning completed an experimental fishing trip on February 15. The vessel, which started the trip from Pearl Harbor on January 5, 1956, fished with conventional troll and long-line gear.

In general tuna appeared to be scarce around Christmas Island and in the southern part of the area, but some excellent catches were made with long lines at Palmyra Islands, where the best day's catch of 83 yellowfin gave a catch rate of nearly 14 fish per 100 hooks--about 5 times the average in Hawaiian waters. Long-lining results at Washington Island were also good. The best trolling was found around Kingman Reef and Washington Island.

The John R. Manning collected environmental data from the waters north and west of Oahu from January 5 to 7. Made BT observations from 10° N. to the equator along 157°30' W. longitude from January 7 to 14. Fished 12 long-line stations and trolled for 12 days from January 15 to February 10 in the vicinity of the Line Islands.

A total of 23 days of scouting for fish schools and bird flocks, done concurrently with fishing operations or during daylight runs between stations, resulted in sightings of 52 tuna schools, 44 of which were accompanied by bird flocks, and 45 additional bird flocks. The area of greatest abundance was around Kingman Reef where 21 tuna schools and 10 bird flocks not associated with fish were sighted. At

all the other islands tuna schools and bird flocks were rather few in number. While a few large schools were sighted, most of them were in the small to medium categories, and the sizes of the fish were estimated as being between 5 to 30 pounds each.



John R. Manning, Cruise 29, January 5- February 15, 1956.

Trolling for 12 days from sunrise to sunset produced 108 yellowfin tuna, 6 skipjack, 260 wahoo, 13 rainbow runner, and 1 barracuda. The yellowfin catch totaled slightly over 1 ton. The best day's catch (30 yellowfin) was made at Washington Island and the next best catch (20 yellowfin) was made at Kingman Reef on two consecutive days.

Fishing for 12 days with 60 baskets of long-line gear set each day except the first, when only 56 were set, produced 169 yellowfin, 9 big-eyed, 7 skipjack, 9 marlin, 9 other fish, and 221 sharks. The yellowfin catch totaled about $9\frac{3}{4}$ tons. The best day's catch (83 yellowfin or 13.6 yellowfin per 100 hooks) was made off Palmyra Island. Another station in the same locality 9 days later yielded 37 yellowfin. The next best catch (23 yellowfin) was made off Washington Island. The rest of the stations averaged 3 yellowfin each.

A total of 105 live yellowfin (46 from long-lining and 59 from trolling) was tagged and released in good condition. In addition, 4 skipjack and 1 big-eyed were tagged and released.

Bathythermograms were taken at 30-mile intervals along 156°30' W. longitude between 10° N. latitude and the equator. In addition, 4 bathythermograms were taken on the runs between the Line Islands and Honolulu and between Honolulu and the first BT position along 156°30' W. longitude.

Twenty bathythermograms, twenty surface salinity samples, and six 70-meter oblique plankton hauls were made in the waters north and west of Oahu.

Four night-light stations were conducted, two of which were inside Kingman Reef. On the second of the latter two stations, 5 tunalike juvenile fish were captured. Definite identification must await closer examination.

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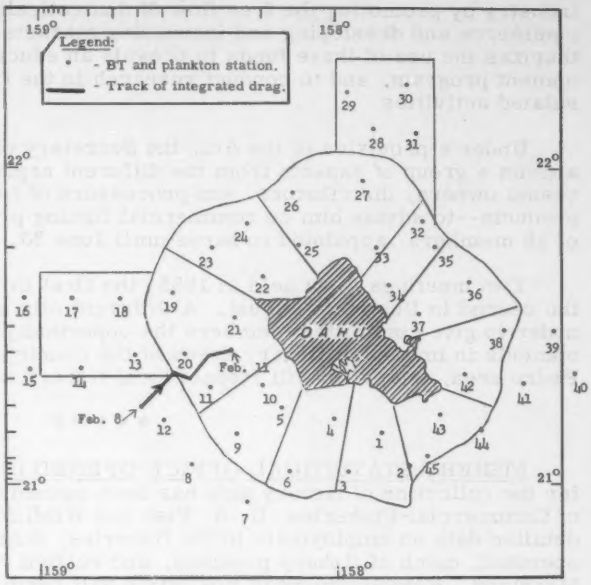
OCEANOGRAPHIC DATA COLLECTED BY "HUGH M. SMITH" (Cruise 32): The primary purpose of this cruise of the Pacific Oceanic Fishery Investigations vessel Hugh M. Smith was the collection of oceanographic data. The cruise period was February 1-11.

A total of 45 stations were occupied. Plankton collections at 0-60 M., 70-130 M., and 140-200 M. were made at each station using three 1-meter closing nets. At the first station after 2,000 hours each night, two additional collections were

made: (1) A 200-M. double oblique haul with the 10' Isaacs-Kidd mid-water trawl and (2) a 200-M. double oblique haul with a 1-meter open net. At each station surface water samples were taken for salinity determinations; a BT cast was also made at each station.

At each station water samples were taken to check the reliability of the PO_4 analysis of frozen sea water samples. These samples were in addition to the samples used in the shipboard determination of PO_4.

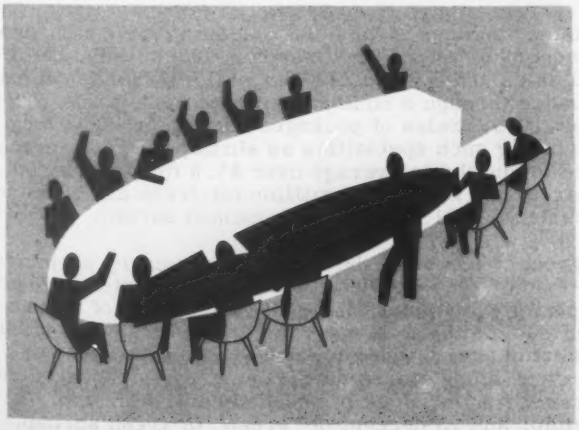
The current-drag gear test was carried out satisfactorily with only minor changes needed in the gear. Five expendable drags were released and 3 of these were retrieved. See chart for course of the main drag. A satisfactory routine was developed for the plankton and trawl work to be done during cruise 33.



Station Pattern of Hugh M. Smith's Cruise 32, February 1-11, 1956.

Saltonstall-Kennedy Act Fisheries Projects

AMERICAN FISHERIES ADVISORY COMMITTEE TO MEET IN CALIFORNIA: The third meeting of the American Fisheries Advisory Committee, authorized under the Saltonstall-Kennedy Act of 1954 will be held on May 1 and 2 in Long Beach, Calif., according to an announcement dated February 21 by Assistant Secretary of the Interior Wesley A. D'Ewart who will serve as presiding officer during the meeting.



The chief objective of the meeting will be to review the status of current fishery research and development projects being financed by Saltonstall-Kennedy funds and to discuss recommendations for next year's program. The program is now in the second year of operation.

The Saltonstall-Kennedy Act, approved on July 1, 1954, provides $3 million annually, for three years, from duties on imported fishery products for the purpose of aiding the American commercial fishing

industry by promoting the free flow of domestically-produced fishery products in commerce and developing and increasing markets for these products. The Act authorizes the use of these funds to provide an educational service and market development program, and to conduct research in the fields of technology, biology, and related activities.

Under a provision of the Act, the Secretary of the Interior was authorized to appoint a group of experts from the different segments of the industry--fishermen, vessel owners, distributors, and processors of fish and fishery products and by-products--to advise him on commercial fishing problems. The committee consists of 19 members, appointed to serve until June 30, 1957.

Two meetings were held in 1955, the first in Washington, D. C., in April, and the second in Boston in August. A different city is selected for each meeting in order to give committee members the opportunity to study at first hand new developments in important fishery areas of the country. While in the Long Beach-San Pedro area, the group will inspect local fishery activities.

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FISHERY STATISTICAL OFFICE OPENED IN ANNAPOLIS: A statistical office for the collection of fishery data has been opened at Annapolis, Md., by the Branch of Commercial Fisheries, U. S. Fish and Wildlife Service. The office will collect detailed data on employment in the fisheries, number of craft and quantity of gear operated, catch of fishery products, and related information on the fisheries of Maryland. Establishment of this office will permit earlier release of data on the important fisheries of the Chesapeake Bay States.

Lloyd Johnson, formerly of the Fort Myers (Fla.) Statistical Office, will be in charge of the Annapolis Office.

This new office is being financed by funds provided by the Saltonstall-Kennedy Act of 1954 (68th Stat. 376).

Shrimp's Chief Retail Outlets are Frozen-Food Cabinets

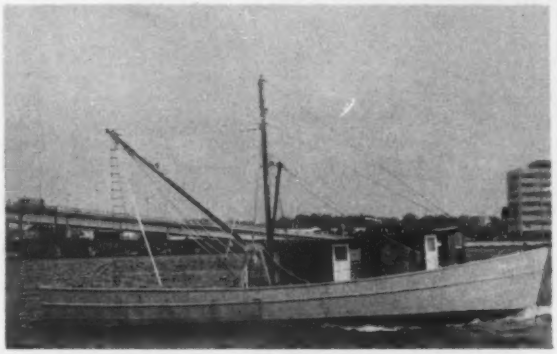
The grocer's frozen-food display cabinet is the chief salesman for the shrimp industry based on dollar value, according to a recent survey. The survey, the first of its kind auditing shrimp retail sales and inventories on a national basis, was made by the U. S Fish and Wildlife Service through a contract with the A.C. Nielsen Company during August and September 1955. Sales of packaged shrimp products from frozen-food display cabinets, including such specialties as shrimp cocktail, creole, sticks, and deviled shrimp, were estimated to average over $5.6 million a month during the study period as compared with about $5.2 million for fresh and bulk-frozen shrimp sold over the fish counter and $1.4 million for canned shrimp.

Only about one-third of all grocery stores in the United States carry shrimp and shrimp products in their frozen-food display cabinets, although these stores do a large part of the nation's total retail food business. Retail distribution of frozen packaged shrimp products is confined mainly to large-volume stores. Fish-counter sales of fresh and bulk-frozen shrimp are confined to such stores even more so. At the time of the survey audit, even among stores normally carrying packaged frozen shrimp products, 25 percent were out of stock of breaded cooked shrimp, 12 percent of breaded uncooked shrimp, and 13 percent of "green" or fresh shrimp.

The survey is part of a comprehensive study the Service will make of the shrimp industry, including an examination of the potential market for shrimp products, the efficiency of processing plants in primary marketing, work practices on shrimp fishing vessels, cost of vessel operations, and other matters pertaining to the production, preparation, and distribution of shrimp and shrimp products. The project is financed by funds provided by the Saltonstall-Kennedy Act of 1954 to help the free flow of domestic fishery products into channels of trade.

South Atlantic Exploratory Fishery Program

CHARTERED VESSEL TO EXPLORE SOUTH ATLANTIC FOR SHRIMP: A new deep-water fishery exploration program in the Atlantic Ocean off the Carolinas, Georgia, and Florida, was initiated by the U. S. Fish and Wildlife Service, Assistant Secretary of the Interior Wesley A. D'Ewart announced February 28. Emphasis will be placed on shrimp exploration, primarily to see if there is a commercial supply of shrimp in deep water, but the work may provide valuable data on other species of fish.



The Pelican, a vessel recently chartered by the U. S. Fish and Wildlife Service for deep-water fishery explorations in the Atlantic Ocean off the coast of southeastern United States.

The project will be carried out with the Service's recently-chartered vessel, the Pelican, which is scheduled to leave Jacksonville, Fla., February 29. The Pelican, steel-hulled and 73 feet long, has been used regularly for commercial shrimp fishing, and the vessel's operation is under the immediate direction of Donald Bates. The vessel, which will have a crew of four commercial fishermen, has been specially rigged for deep-water trawling with the installation of a winch holding 800 fathoms of wire rope.

The Pelican is assigned to explore the Atlantic from Cape Hatteras, N. C., to Cape Canaveral, Fla. The exploratory work will be done in offshore waters ranging from 20 to 300 fathoms in depth. In some instances the Pelican will be as much as 90 miles offshore during the progress of the explorations.

The project is financed by funds provided by the Saltonstall-Kennedy Act of 1954 and is one of the activities recommended by the American Fisheries Advisory Committee named by Secretary Douglas McKay.

Shrimp fishing has been an important industry in the waters off the South Atlantic States for a number of years, but most of the fishing has been done in the comparatively shallow waters close to shore. Because of the fluctuations in the shrimp take in that area, many believe that the shrimp move periodically into the deeper water some distance from the land.

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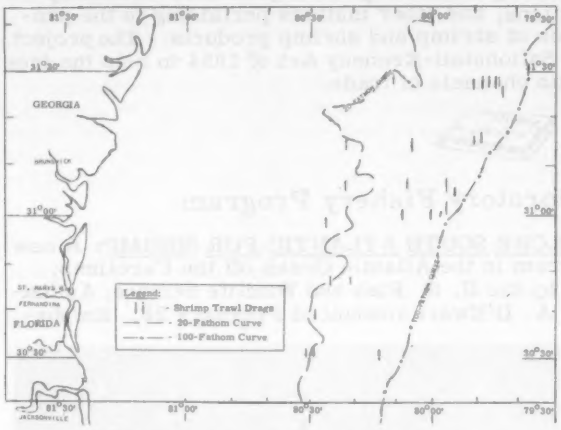
FIRST SHRIMP EXPLORATION TRIP COMPLETED BY "GEORGE M. BOWERS" (Cruise 1): Small numbers of rock shrimp (Sicyonia brevirostris) were taken over a wide offshore area between Jacksonville, Fla., and Savannah, Ga., during the first cruise of the U. S. Fish and Wildlife Service's exploratory vessel George M. Bowers, completed January 31, 1956. This was the first of a series of exploratory operations to determine species of shrimp present and the commercial fishing potential of the South Atlantic area.



M/V George M. Bowers, Cruise 1, January 1956

The George M. Bowers used a 40-foot flat shrimp trawl to make 25 one-hour drags in the area between the 20- and the 50-fathom depth contours. The rock shrimp (21-25 count), a species with a hard lobster-like shell and not presently in commercial demand, were caught in 17 drags. The catch ranged from individual shrimp to $2\frac{1}{2}$ pounds (heads-on) per drag. Nine Trachypeneus sp., a member of the commercial shrimp family, were taken in 4 drags. None of the presently commercially-valuable species (white, pink, or brown shrimp) were taken.

Bottom conditions as observed by echo tracings and bottom samples indicated extensive trawlable sandy bottom between 20-30 fathoms. Between 30-50 fathoms the area was found to be generally rocky, rough, and to drop off steeply.

Several commercial species of flat fish were taken in 22 hauls. The principal species taken in these hauls were northern fluke (Paralichthys dentatus), ocellated fluke (Ancylopsetta quadracellata), and small-tailed flounder (Syacium micrurum ?). The average weight of these fishes was approximately one pound.

During the regular trawling operations 8 tows were made with a cod-end cover attached to the trawl for escapement studies by a University of Miami Marine Laboratory cooperator aboard. No commercial species of shrimp were taken in these drags and the operation was discontinued.

Sport Fishing License Sales Set New Records

Sport fishing and wild-game hunting in the United States attracted enough new recruits during the fiscal year ended June 30, 1955, to establish a record of 33,046,361 paid license holders, an increase of 392,162 over the previous year, the Fish and Wildlife Service reported March 4 to Secretary of the Interior Douglas McKay.

In the enjoyment of these outdoor sports, hunters and fishermen spent nearly $87 million for all types of hunting and fishing licenses, permits, tags, trout stamps, and Federal duck stamps.

Fishing, still the most popular sport, recorded 18,854,809 paid license holders, compared with 18,580,813 in fiscal year 1954.

In 1955, fishermen paid $39,501,838 for all types of licenses and special permits, tags, and trout stamps. This is an increase of $574,103 over the 1954 total of $38,927,735.

State Fishing Licenses Issued to the United States, July 1, 1954, to June 30, 1955

State	Paid Fishing License Holders			Total Licenses, Permits, Etc. Issued[1]	Total Cost[2] to Anglers for All Licenses Issued
	Resident	Non-Resident	Total		
Alabama	221,515	20,515	242,030	250,896	$ 288,344
Arizona	94,874	48,054	142,928	142,928	379,294
Arkansas	264,415	133,978	398,393	398,393	752,514
California	1,271,038	14,942	1,285,980	1,285,980	3,847,275
Colorado	258,094	102,609	360,703	360,714	894,804
Connecticut	104,371	4,960	108,681	109,495	378,511
Delaware	9,756	1,636	11,392	11,392	24,665
Florida	268,413	102,483	370,896	370,896	969,656
Georgia	423,583	7,270	430,811	437,876	282,498
Idaho	183,319	65,929	249,248	254,508	706,089
Illinois	862,908	19,087	881,995	881,995	1,020,878
Indiana	584,875	39,462	623,717	642,923	705,062
Iowa	399,310	15,389	414,699	414,699	595,002
Kansas	213,267	5,766	219,033	719,033	448,071
Kentucky	327,956	77,968	405,924	405,974	861,405
Louisiana	187,832	29,450	217,282	217,282	282,876
Maine	136,750	74,308	211,058	211,058	642,475
Maryland	96,705	22,803	119,508	120,790	219,034
Massachusetts	221,644	6,289	227,953	242,356	659,222
Michigan	878,668	309,466	1,188,134	1,404,908	2,309,928
Minnesota	1,058,432	316,510	1,374,942	1,451,923	2,543,412
Mississippi	131,784	34,397	166,181	166,181	379,605
Missouri	540,984	51,741	592,725	592,725	1,341,086
Montana	178,244	38,207	216,451	216,451	482,972
Nebraska	222,219	10,559	232,778	232,778	366,477
Nevada	29,393	25,494	54,887	60,382	192,137
New Hampshire	81,822	51,116	132,938	136,697	437,300
New Jersey	138,681	9,838	148,469	230,613	584,261
New Mexico	63,369	32,020	95,389	97,412	345,099
New York	766,585	43,934	810,519	847,902	1,835,910
North Carolina	316,508	10,546	327,054	368,934	657,141
North Dakota	76,360	1,916	78,276	78,276	82,108
Ohio	830,103	47,813	877,916	877,916	1,747,877
Oklahoma	352,795	60,684	413,479	413,479	889,914
Oregon	291,115	27,092	318,207	318,362	1,169,232
Pennsylvania	706,079	33,955	740,034	740,034	1,880,228
Rhode Island	19,950	518	20,468	26,997	47,477
South Carolina	311,361	12,802	324,163	342,819	511,906
South Dakota	100,199	38,943	139,142	139,142	277,065
Tennessee	522,197	219,799	742,096	811,706	766,118
Texas	455,975	8,359	464,334	464,334	782,533
Utah	164,586	8,511	173,100	181,111	513,125
Vermont	75,207	34,335	109,542	109,681	253,487
Virginia	359,474	12,113	371,587	462,679	597,996
Washington	351,756	19,980	371,736	371,736	1,342,282
West Virginia	185,270	7,862	193,140	219,907	377,129
Wisconsin	758,381	326,337	1,084,718	1,112,713	2,348,478
Wyoming	113,266	56,414	170,180	176,568	582,268
TOTALS	16,211,767	2,643,042	18,854,809	19,025,387	$39,501,838

1/This includes general resident and non-resident fishing licenses, permits, tags, stamps, and such free licenses as distributed by some states.

2/This is the gross cost to the fisherman for various types and categories of licenses issued by the respective states for the privilege of fishing for and/or possessing fishes.

A thrilling new sport that has sprung up in the past ten years is "skin-diving." This fascinating pursuit numbers nearly 2,000,000 active and enthusiastic participants who do their fishing under the water with spear or camera.

Resident fishing licenses accounted for 16,211,767 of the 18,854,809 total; nonresident licenses numbered 2,643,042. The states to attract the greatest number of nonresident anglers were Wisconsin, Minnesota, Michigan, Tennessee, Arkansas, Colorado, and Florida, in that order. In Nevada, license sales to nonresidents amounted to 25,494 of their total of 54,887.

This is the second year a new system of reporting hunting and fishing license statistics has been used. As developed by the Service last year, the general licenses are segregated from the special licenses, permits, tags, stamps, etc. This eliminates duplications in the totals since a hunter may buy, in addition to his general license, a pheasant license-tag and a deer permit, or a fisherman may be required in some states to purchase a trout stamp.

The apportionment of Federal aid funds to the states for fish and wildlife restoration programs is based upon the number of paid license holders and not upon the total of all licenses and permits issued. For apportionment purposes in fiscal year 1957, the total in 1955 of 18,854,809 paid fishing license holders will be used in apportioning funds for fish restoration under the Dingell-Johnson program.

In the table, the data have been arranged in five columns. The first three columns cover, as nearly as can be determined, the number of paid license holders, consisting of resident, nonresistant, and the total for each state. The fourth column presents an enumeration of all types of licenses issued by the states to sportsmen, such as general fishing licenses, and special types of issuances such as trout stamps, special area licenses, free licenses to the aged, veterans, etc., special gear permits (fish houses, etc.), and others. The numbers of these special licenses is indicative of the growing trend toward more highly specialized and regulated fishing. The fifth column gives the gross cost which sportsmen pay for the

right to indulge in their favorite sports. The totals in the fifth column include fees for the general licenses, and for all special permits, tags, and stamps.

Note: See Commercial Fisheries Review, April 1955, p. 47.

U. S. Foreign Trade

EDIBLE FISHERY PRODUCTS, DECEMBER 1955: United States imports of fresh, frozen, and processed edible fish and shellfish in December 1955 amounted to 56.4 million pounds (valued at $17.2 million), according to a U. S. Department of Commerce summary (see table). This was a decrease of about 21 percent in quantity as compared with November 1955, but an increase of 14 percent over the imports for December 1954. The value of the December 1955 edible fishery products imports was 16 percent lower than November 1955, but 22 percent higher than December 1954. The dollar value in December 1955 works out to about 30.5 cents a pound as compared with 28.5 cents a pound in December 1954. Shrimp imports in December 1955 continued at a relatively high level.

United States Foreign Trade in Edible Fishery Products, December 1955 with Comparisons

Item	Quantity			Value		
	Dec.		Year	Dec.		Year
	1955	1954	1954	1955	1954	1954
	(Millions of Lbs.)			(Millions of $)		
Imports:						
Fish & shellfish: Fresh, frozen, & processed 1/	56.4	49.4	801.7	17.2	14.1	202.8
Exports:						
Fish & shellfish: processed 1/ only (excluding fresh and frozen)	9.9	6.2	50.8	2.0	1.3	13.2

1/ Includes pastes, sauces, clam chowder and juice, and other specialties.

Exports of processed edible fish and shellfish in December 1955 were down in quantity about 31 percent as compared with November 1955, but were almost 60 percent higher than in December 1954. The value of these exports in December 1955 were 39 percent below November 1955, but 54 percent higher than the same month a year earlier.

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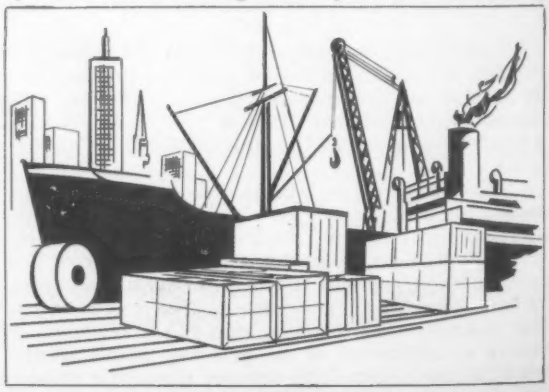
GROUNDFISH FILLET IMPORTS IN JANUARY 1956 ABOVE A YEAR AGO: Imports of groundfish (including ocean perch) fillets during January 1956 amounted to 15.5 million pounds. Compared with the imports for the same month of last year, this was an increase of 18 percent (see Chart 7 in this issue).



The increase was primarily due to considerably larger imports from Canada and Iceland, although less spectacular increases were noted from almost all of the other exporting countries as well. Canada and Iceland accounted for 91 percent of the total January imports. Other countries exporting groundfish fillets to the United States during the first month of the current year were Norway, Denmark, the Netherlands, West Germany, and Greenland.

The quota of groundfish (including ocean perch) fillets permitted to enter the United States at $1\frac{7}{8}$ cents per pound in the calendar year 1956 is 35,196,575 pounds compared with 35,432,624 pounds in 1955. Imports in excess of the quota enter at a duty of $2\frac{1}{2}$ cents a pound. Included in this category are imports of fillet blocks and slabs of these species.

Wholesale Prices, February 1956

The improvement in the production of groundfish and some flatfish varieties on the East Coast was reflected in the lower February 1956 index (113.7 percent of the

Table 1 - Wholesale Average Prices and Indexes for Edible Fish and Shellfish, February 1956 With Comparisons

Group, Subgroup, and Item Specification	Point of Pricing	Unit	Avg. Prices 1/ ($)		Indexes (1947-49=100)			
			Feb. 1956	Jan. 1955	Feb. 1956	Jan. 1955	Dec. 1955	Feb. 1955
ALL FISH & SHELLFISH (Fresh, Frozen, & Canned)					113.7	122.3	112.6	101.8
Fresh & Frozen Fishery Products:					121.5	136.5	121.1	103.0
Drawn, Dressed, or Whole Finfish:					114.1	143.5	117.0	100.4
Haddock, lge., offshore, drawn, fresh	Boston	lb.	.09	.21	86.9	208.2	124.3	80.8
Halibut, West., 20/80 lbs., drsd., fresh or froz.	New York	lb.	.32	.29	97.5	89.2	85.1	79.4
Salmon, king, lge. & med., drsd., fresh or froz.	New York	lb.	.60	.60	134.3	135.4	133.1	119.7
Whitefish, L. Superior, drawn, fresh	Chicago	lb.	.73	.69	181.0	170.1	131.4	161.1
Whitefish, L. Erie pound or gill net, rnd., fresh	New York	lb.	-	.70	131.4	141.5	136.5	96.0
Lake trout, domestic, No. 1, drawn, fresh	Chicago	lb.	.74	.64	150.6	131.1	132.2	133.2
Yellow pike, L. Michigan & Huron, rnd., fresh	New York	lb.	.55	.50	129.0	117.3	102.0	123.1
Processed, Fresh (Fish & Shellfish):					127.6	133.7	124.1	104.3
Fillets, haddock, sml., skins on, 20-lb. tins	Boston	lb.	.32	.64	110.6	217.7	132.7	100.4
Shrimp, lge. (26-30 count), headless, fresh	New York	lb.	.77	.75	121.7	118.5	113.4	91.7
Oysters, shucked, standards	Norfolk	gal.	5.62	5.50	139.2	136.1	136.1	120.6
Processed, Frozen (Fish & Shellfish):					116.5	117.6	114.2	97.4
Fillets: Flounder, skinless, 1-lb. pg.	Boston	lb.	.39	.40	102.1	104.7	104.7	104.7
Haddock, sml., skins on, 1-lb. pkg.	Boston	lb.	.30	.30	92.6	92.6	91.0	89.4
Ocean perch, skins on, 1-lb. pkg.	Boston	lb.	.29	.29	114.8	114.8	112.8	111.8
Shrimp, lge. (26-30 count), 5-lb. pkg.	Chicago	lb.	.78	.79	119.6	121.1	116.5	86.8
Canned Fishery Products:					102.4	102.2	100.5	100.0
Salmon, pink, No. 1 tall (16 oz.), 48 can/cs.	Seattle	case	21.70	21.70	120.0	120.0	114.8	109.6
Tuna, lt. meat, chunk, No. 1/2 tuna (6-1/2 oz.), 48 cans/cs.	Los Angeles	case	11.80	11.80	85.1	85.1	85.1	93.0
Sardines, Calif., tom. pack, No. 1 oval (15 oz.), 48 cans/cs.	Los Angeles	case	7.12	7.00	83.2	81.7	81.7	85.2
Sardines, Maine, keyless oil, No. 1/4 drawn (3-1/4 oz.), 100 cans/cs.	New York	case	8.45	8.45	89.9	89.9	92.6	76.6

1/ Represent average prices for one day (Monday or Tuesday) during the week in which the 15th of the month occurs. These prices are published as indicators of movement and not necessarily absolute level. Daily Market News Service "Fishery Products Reports" should be referred to for actual prices.

1947-49 average) for all edible fish and shellfish (fresh, frozen, and canned). The improvement in the supply of groundfish, particularly haddock, was principally responsible for the decline of 7 percent from January to February, but the index for February 1956 was still 11.7 percent higher than for the same month in 1955.

The decrease of 20.5 percent from January to February in the drawn, dressed, or whole finfish subgroup index was due entirely to the sharp drop in ex-vessel

prices at Boston (drawn offshore haddock was down 58.3 percent). All other items included in this subgroup were either unchanged or from 5 to 15 percent higher. Compared with February 1955, the drawn, dressed, or whole finfish subgroup index this February was higher by 13.6 percent due to higher prices for all items, but the sharpest increase occurred in frozen dressed halibut prices which rose 22.8 percent because of the lighter supplies of frozen halibut available in 1956.

At the Boston Fish Pier, after fish is unloaded from the hold of the fishing vessel and packed in boxes, it is hauled to the processor for filleting.

The fresh processed fish and shellfish subgroup index declined 4.6 percent from January to February, but was 22.3 percent higher than in February 1955. The drop from January 1956 to February 1956 was due primarily to lower prices for haddock fillets at Boston as prices for both fresh shrimp and oysters were up slightly. Stronger markets for fresh haddock fillets, shrimp, and oysters accounted for the higher prices this February as compared with a year earlier.

The processed frozen fish and shellfish February subgroup index changed only slightly from that of the previous month, but was up almost 20 percent above the same month in 1955. The increase between February 1956 and February 1955 was for all items in the subgroup except frozen flounder fillet prices which dropped about 2 percent. Frozen shrimp prices at Chicago this February were 37.8 percent above those for the same month a year earlier.

The canned fishery products subgroup index for February was about unchanged for January 1956, but was up 2.4 percent over February 1955. Production of canned fish during February 1956 was principally limited to tuna. Compared with February 1955, this February's substantially higher prices for the limited supplies of canned salmon and Maine sardines were offset almost entirely by the lower prices for the ample supplies of canned tuna and California sardines.

International

TERRITORIAL WATERS

UNITED STATES RESERVATION ON INTER-AMERICAN JURIST COUNCIL RESOLUTION ON TERRITORIAL WATERS: The Inter-American Council of Jurists concluded a meeting in Mexico City on February 5, and in the concluding session of that meeting a resolution on territorial waters was passed. The Council is made up of specialists in international law from each of the American Republics. The United States and other delegations raised basic questions regarding the contents of the resolution, and the United States representative filed a strong reservation on behalf of the United States both as to the contents of the resolution and the method used to pass it. The text of the reservation filed by the United States Government follows:

DECLARATION AND RESERVATION OF THE UNITED STATES OF AMERICA
ON THE RESOLUTION ON TERRITORIAL WATERS AND RELATED
QUESTIONS, ORGANIZATION OF AMERICAN STATES,
INTER-AMERICAN COUNCIL OF JURISTS,
THIRD MEETING, MEXICO CITY,
JANUARY-FEBRUARY 1956

For the reasons stated by the United States representatives during the sessions of committee I, the United States voted against and records its opposition to the Resolution on Territorial Waters and Related Questions. Among the reasons indicated were the following:

That the Inter-American Council of Jurists has not had the benefit of the necessary preparatory studies on the part of its permanent committee which it has consistently recognized as indispensable to the formulation of sound conclusions on the subject;

That at this meeting of the Council of Jurists, apart from a series of general statements by representatives of various countries, there has been virtually no study, analysis, or discussion of the substantive aspects of the resolution;

That the resolution contains pronouncements based on economic and scientific assumptions for which no support has been offered and which are debatable and which, in any event, cover matters within the competence of the specialized conference called for under resolution LXXXIV of the Tenth Inter-American Conference;

That much of the resolution is contrary to international law;

That the resolution is completely oblivious of the interests and rights of States other than the adjacent coastal States in the conservation and utilization of marine resources and of the recognized need for international cooperation for the effective accomplishment of that common objective; and

That the resolution is clearly designed to serve political purposes and therefore exceeds the competence of the Council of Jurists as a technical-juridical body.

In addition, the United States delegation wishes to record the fact that when the resolution, in the drafting of which the United States had no part, was submitted to committee I, despite fundamental considerations raised by the United States and other delegations against the resolution, there was no discussion of those considerations at the one and only session of the committee held to debate the document.

Note: Also see Commercial Fisheries Review, March 1956, p. 28.

NORTHWEST ATLANTIC FISHERIES COMMISSION

ANNUAL MEETING ANNOUNCED: The Annual Meeting of the International Commission for the Northwest Atlantic Fisheries will be convened at Commission headquarters in Halifax, Nova Scotia, June 11-16, 1956. The first plenary session is scheduled to open on June 11. A symposium on cod is to be held on June 14.

Notifications of the Annual Meeting have been circulated to member countries from the Secretariat.

Regulations of the trawl fishery for haddock and cod in subareas 3, 4, and 5 proposed by the Commission at its 1955 Annual Meeting were forwarded to the Depositary Government (United States) for transmission to member countries. Up to date the Secretariat has been informed by the Depositary Government of the acceptance of these regulations by Norway and Portugal, a February 10 newsletter from the Commission reports.

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UNITED STATES RESEARCH PROGRAM FOR 1956 IN COMMISSION AREA: Operations of the "Albatross III": This vessel will be operated throughout the year in the Convention Area, principally in Subarea 5 and especially in the region of Georges Bank. In the winter and spring, plankton and hydrographic surveys will be conducted to determine the fate of the 1956 spawning of haddock. During the summer, studies will be made of sea scallops (Placopecten magellanicus (Gmelin)) and of bottom fauna as related to the occurrence of bottom fish. In the fall, studies will be made of the distribution of the 1956-year class of haddock. As time permits, other cruises will be made for purposes of tagging and mesh selectivity studies. No cruises are planned beyond Subarea 5 except to Browns Bank, south of Nova Scotia (Subarea 4).

Operations of the "Delaware": During 1956, the Delaware will make seven cruises in Subarea 4 in deep-water exploration for ocean perch. These cruises will average about 12 days each. Seven cruises are planned in Subarea 5 exploring for commercial concentrations of fish or shellfish in deep water. One cruise in April will be made in Subarea 5 to conduct antibiotic ice experiments.

Hydrographic Studies: The Woods Hole Oceanographic Institution will be making special hydrographic studies south of Cape Cod (Subarea 5) and will test a number of automatic devices for recording temperature and currents. Observations will be taken routinely from lightships.

Other Studies: In addition to the field work described above, the usual sampling of the commercial catches and also the general analyses for population studies of haddock and ocean perch will be done. To this may be added silver hake, red hake, and sea scallop in Subarea 5. Gear selection studies and studies of conversion factors will be continued.

Australia

QUEENSLAND SHRIMP FISHERY: The years 1954 and 1955 saw substantial increases in prawn or shrimp production in Queensland's waters following the introduction of trawling methods. These trawlers maintain constant radio contact over approximately 1,200 miles of coastline, from Cairns to the southern border, for the latest fishing information.

Shrimp are delivered to and sold by the Queensland Fish Board. The ex-vessel price is determined at auctions on the basis of supply and demand. However, shrimp caught in Queensland waters are not all sold in that State but may be shipped to and sold in other Australian states.

High prices are presently being paid for shrimp in Sydney markets, according to a February 23 communication received by the U. S. Fish and Wildlife Service.

A news release from Sydney, dated February 14, points out that Australian Trade Authorities are looking to the Australian fishing industry to build up export markets, particularly in North America. Spiny lobster exports already are a big dollar earner, and recently there have been inquiries, for shrimp, which abound in rich fishing grounds off the Queensland and New South Wales coasts. The yield from these grounds in 1955 was 6 million pounds. The Australian Director of Fisheries believes that shrimp exports could earn up to US$10 million a year. A spokesman for the fishing industry said that the Federal Government had been asked to set up a Fisheries Council to develop and stabilize the fishing industry in Australia.

The big increase in the Australian shrimp catch in the last 12 months has been due principally to the discovery of rich fishing grounds off Bundaberg, Queensland. In New South Wales, the shrimp catch in the last five years has increased by about 1 million pounds each year, and the 1954/55 fiscal year yield was more than 4 million pounds. Queensland's catch in the same period was 2 million pounds. Queensland and New South Wales are Australia's main shrimp-producing states.
Note: See Commercial Fisheries Review, February 1956, p. 44.

--Personal Communication from Stewart McCracken, El Monte, Calif. (2/23/56)

Ecuador

FIRST NATIONAL FISHING CONGRESS: Ecuador's first national fishing congress was held under the auspices of the National Fishing Institute (with the support of the Ecuadoran Government) at Quito, February 15-17, 1956. The agenda included: (1) Maritime policing of fishing vessels; (2) Fishing chart for ocean patrols; (3) Regulations of the activities of foreign vessels in Ecuadoran waters; (4) Regulations for bait fishing; (5) Necessity for new law on fishing and hunting; (6) A National Commission for fishing development; (7) The fishing industry and the State; (8) Regulations for radio communications between land bases and vessels; (9) Documentation of foreign seamen serving on fishing vessels in the service of national companies; (10) Oceanographic Institute.

The Central Bank was scheduled to participate in the Congress, according to a January 10 dispatch from the United States Embassy at Quito. The Bank is concerned with exports of fish and shellfish, the imports necessary for the fishing industry, and monetary regulations governing these exports and imports.

France

FISH CANNING TRENDS FOR 1955: The sardine catch in 1955, the lowest since 1948, had an adverse effect on the fish canning industry in Brittany, France, according to a January 30 note from the United States Embassy in Paris. Only the tuna catch enabled canneries to keep running.

At a meeting of the Sardine Industry Committee held at Nantes on November 3, 1955, it was unanimously decided to bar further importations of foreign and Moroccan sardines.

Guatemala

FISHING LICENSES: Decree 550, recently issued by Guatemala, authorizes the Ministry of Agriculture to grant licenses for a maximum period of ten years to fish in the country's rivers, lakes, or seas. This decree replaces a resolution of January 22, 1955, which authorized the granting of licenses (no mention made of time limit) without necessity of recourse to bidding, states a United States Embassy dispatch (February 23) from Guatemala City.

Iceland

SHRIMP AND LOBSTER FISHERIES: Iceland's 1955 production of frozen shrimp amounted to 20.1 metric tons and of lobster, 10.3 tons, reports a February 6 United States Embassy dispatch from Reykjavik. No other crustaceans are produced in Iceland.

The Fisheries Association estimates the annual canned shrimp production between 10 to 20 metric tons, the majority of which is consumed locally.

Exports of frozen shrimp and lobster during the year 1955 totaled 36.6 metric tons--30.9 tons to the United States and 5.7 tons to the United Kingdom. The export statistics combine shrimp and lobster and no breakdown of each is available.

The Icelandic shrimp is smaller in size and of a stronger taste than the shrimp caught off the United States east coast. The lobster caught off the Icelandic coast is of genus Ephrops norvegicus and lacks the chelae or pincerlike claws.

India

JOINT INDO-JAPANESE FISHING ENTERPRISE: An Indo-Japanese fishing enterprise (the New India Fisheries Limited) has been registered as a public limited company in Bombay to exploit the fishery resources in the deep sea waters off the Bombay and Saurashtra coasts. The company's stocks were being offered to the public in mid-February, a United States consular dispatch (February 17) from Bombay announces.

According to an announcement published by the promoters in the local press, the new company will have an authorized capital of 10 million rupees (US$2,100,000) of which the initial issue will total Rs. 1,500,000 (US$315,000). Of this amount, the Taiyo Fishery Company Limited of Japan, which will share its technical knowledge and experience with the new firm and also supply fishing trawlers and technicians, has been allocated 49 percent in consideration for the equipment and services it will provide. Of the remaining 51 percent, the Indian promoters of the firm and their friends have agreed to take up 2,056 shares of the total value of Rs. 205,600 (US$43,176) and the balance of Rs. 559,400 (US$117,474) made up of 1,443 preference shares and 4,151 ordinary shares of Rs. 100 (US$21) each, are available for public subscription. The company will have 8 Indian and two Japanese directors.

A significant feature of the new flotation is the offer of certain financial guarantees by the Japanese firm. Besides guaranteeing the Indian shareholders a minimum dividend of 6 percent every year, the Japanese firm has agreed, in the event of liquidation of the company, to indemnify the Indian shareholders against any loss in capital.

The aims and objects of the company, as set out in the Memorandum and Articles of Association filed with the Registrar of Companies, Bombay, include the exploitation of the fishing grounds in the Arabian Sea off the Bombay and Saurashtra Coasts by means of modern technical fishing methods such as are used in Japan. The company will also engage in other related activities, such as the installation of refrigeration plants and erection of fish storages. As catches increase, ancillary industries such as shark-liver oil production and fish canning will be organized.

It is understood that the Japanese company will provide the new company with four bull trawlers and about 30 technicians from Japan. It is proposed to train local personnel for the positions of skippers, mates, boatswains, engineers, and radio operators in due course. The boats were expected to arrive in Bombay the last week of March and fishing operations were to commence in April 1956.

The present venture is the outcome of the successful trial fishing operations by an otter trawler belonging to the Japanese company in the Arabian Sea during the last two or three years. In 1952/53, this trawler caught 1,163 metric tons of fish in 22 voyages and in the following year it caught 987.5 tons in 21 voyages. Fishery experts believe that bull-trawling will be even more successful as is evidenced by the results of experimental operations of the Government of India's Pilot Deep Sea Fishing Station in Bombay. Two bull trawlers belonging to the Station caught on an average 130 percent more fish than the Japanese trawler while operating simultaneously in the same fishing grounds off Saurashtra during 1953/54. Considering that the Government of India's trawlers were each only one-half the size of the Japanese trawler and, moreover, were not ideally suited for bull-trawling as these were built for otter trawling, their performance is said to underscore the relative superiority of bull-trawling. This method of commercial fishing in the Arabian Sea is believed to offer considerable potentialities.

Note: Values converted to US$ equivalents on the basis of 1 rupee equals US$0.21.

Japan

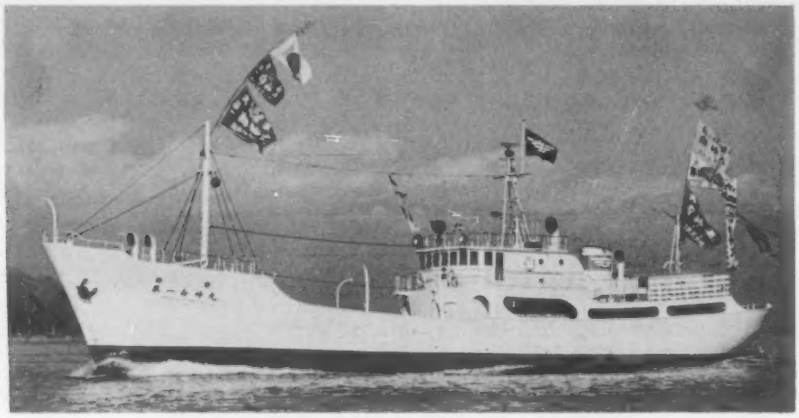
DESCRIPTION OF MOST ADVANCED TYPE TUNA VESSEL: The Kuroshio Maru No. 21, now on her fifth trip to the Indian Ocean between Ceylon and Madagascar fishing for yellowfin tuna, is one of the most advanced types of tuna vessels in Japan, according to a January 24 report from the United States Embassy in Tokyo.

This vessel, built in 1954, is a refrigerated-cargo carrier-type of 1,858 gross tons (1,383 deadweight tons), powered by a 2,100 hp. Diesel engine, and a speed of 13 knots. The vessel's equipment includes radar, loran, echo-sounder, direction finder, and gyrocompass.

As the term is used in Japan, a "mothership" is a larger vessel that accompanies smaller or catcher boats that do the actual fishing. The "mothership" acts as a carrier for the catch and as a source of supplies. The Kuroshio Maru No. 21 does not act as a "mothership" in this sense in that six smaller catcher boats are carried on deck to the fishing grounds. In addition, the vessel is equipped with long-line fishing gear which is fished directly from her own deck.

The trip to and from the Indian Ocean takes about 25 days each way, and the vessel fishes for about 30 days, making the total time for each trip about 80 days. Part of the catch is frozen by mechanical-refrigeration equipment, and the remainder is packed in ice for the return voyage. The catch expected from each trip is slightly over 1,000 metric tons. The owners of the ship state that its operations have been "fairly successful."

Upon the ship's return to Japan, the catch is disposed of through normal commercial channels for the fresh-fish trade, freezing, and canning. While a portion



Kurosnio Maru No. 21, Japan's most advanced type of tuna vessel.

of the catch may be utilized by the owners in their processing operations, the ship is not operated solely for that purpose.

After its return from the present expedition to the Indian Ocean, the ship will be used from May to September in the North Pacific salmon fishery as a cargo carrier.

JAPANESE GOVERNMENT

Mexico

MERIDA SHRIMP FISHERIES TRENDS, OCTOBER-DECEMBER 1955: The Mexican area of Merida in Yucatan, which includes ports on the Gulf of Mexico, exported close to 3.6 million pounds of shrimp to the United States during October-December 1955. Other exports included 61,200 pounds of frozen fish, and 7,000 pounds of shark fins and shark skins, according to a January 27 dispatch from the United States Consul in Merida.

It was reported that production remained good for the quarter, particularly considering that this period was the season of northerly winds. The economic conditions for the area's industry are good although boat construction and heavy spending have started and indications are that many operators are overextending themselves financially.

Average prices f.o.b. Brownsville for frozen 15-20 count brown shrimp for the period under review were: October, US$0.59; November, US$0.69; and December, US$0.73.

It was reported that a new Mexican company will start shrimp operations in the near future off the coast of Campeche with a capital of 2 million pesos (US$160,000), and with its own fishing boats. Many of the fishing boats based at Tampico have left that port due to the destruction of the packing plants by the fall 1955 hurricanes. The shrimp boats are establishing their bases at Ciudad del Carmen, Campeche, temporarily.

Norway

FROZEN-FOOD CONTAINER TESTED: Norwegian State Railways are testing a specially-designed insulated container for transporting quick-frozen foods, primarily fish fillets. The container weighs slightly over 1.5 metric tons and can carry more than 4 tons. Dry ice helps to maintain a constant temperature of about -13° F. Chief advantage is that the packaged food can be delivered directly from the freezing plant to the point of destination without reloading.

Four of these containers fit on top of a railway flat car, or they can be transported by truck, with each semitrailer accommodating 2 containers. So far, the results have been very promising. At the present time, the test is limited to one container, but the State Railways have three more under construction. Eventually they are expected to speed up the transportation of deep-frozen fish to many parts of East Norway, reports the February 9 News of Norway, issued by the Norwegian Information Service.

* * * * *

FISHERMEN'S LOAN FUND FOR NYLON NETS: During a recent session the Norwegian Parliament discussed the advantages of nylon nets and the need for making it easier for Norwegian fishermen to obtain them. As a result, the Parliament voted that US$700,000 be made available in the budget for this purpose. The funds are placed at the disposition of the State's Fisheries Bank for loans to fishermen who wish to secure nylon nets for cod or pollock fishing, reports Fiskaren (December 7, 1955), a Norwegian fishery periodical. The loans can cover 75 percent of the cost of the nets.

* * * * *

AGREEMENT ON SALTED HERRING EXPORTS TO RUSSIA: Recent negotiations between Norway and Russia have resulted in a trade agreement for the export to Russia of 50,000 metric tons of salt herring in 1956. This is approximately the same amount that was exported to Russia in 1955. The Norwegians obtained a slight price increase of about US$0.28 a ton over the 1955 price, states a February 3 report from the United States Embassy in Oslo.

Peru

LICENSING AND TAXING OF FOREIGN FISHING VESSELS: Regulations for the issuance of fishing permits for foreign vessels is the purpose of Supreme Decree No. 22, dated January 5, 1956, and published in El Peruano at Lima on January 17, 1956. These regulations established a procedure for licensing and taxing foreign vessels operating in what Peru regards as its jurisdictional waters. Although not defined in this law, Peru elsewhere asserts jurisdiction over the waters 200 miles off its coastline. The preamble of the Decree points out that it is necessary to establish norms under which permits can be given to foreign flag fishing vessels which desire to fish in waters under national jurisdiction, for the purpose of protecting and conserving the use of the living resources of the sea essential for national life, to the end that they may be exploited only in a manner not causing detriment to the country's economy or its food production.

Article 1 indicates that the Government may grant permits to foreign flag fishing vessels to operate in Peruvian jurisdictional waters.

Article 2 points out that the regulation does not apply to foreign flag vessels contracted to work for the benefit and use of national companies with industrial plants established in the country and which deliver the fish produced to such plants; nor to vessels which come exclusively for the purpose of supplying fresh fish to national consumer markets since regulations for these types of vessels already exist.

Article 3 provides that the Permanent Commission (Peruvian Section) of the Conference for the Exploitation and Conservation of South Pacific Maritime Resources in accord with pertinent studies, may dictate conservation measures which fix or limit the annual fishing quota. In this case permits will not be granted to a

larger number of vessels than that determined each year by this Commission. When quotas are established for issuance of permits to foreign flag vessels, the interests of applicants who have previously operated in the zone will be given consideration.

According to Article 4, permits will be granted only for tuna and skipjack fishing and for the appropriate bait fishes. Fishing for other species will only be authorized in those cases indicated in Article 2.

Article 5 points out that to operate in Peruvian jurisdictional waters, foreign vessels must have obtained previously a Registration (Matricula) and a Fishing Permit (Permiso de Pesca). The registration will remain in effect for one calendar year. The permit will be valid for 100 days from the date of its issuance.

Article 6 provides these fees for the registration: each ship will pay the sum of US$200 and for the fishing permit will pay the sum of US$12 per net registered ton, an amount which may be modified in accordance with fluctuations in the value of the product in the international market... .

Articles 7-9 indicate the procedures for applying for the permits, the documents needed with the application, and where the permits are obtainable.

Article 10 states that permits will be issued for refrigeration (freezer) ships only when these act as motherships for fishing vessels authorized to fish in accordance with the present regulation. These ships in applying for a permit will pay only the value of registration set forth in Article 6 being exonerated from payment of the fishing permit, but the fish which they receive will pay the same export duties established for fish which national companies export.

Article 11 provides that ships which are registered and while on the high seas wish to fish in Peruvian jurisdictional waters without having previously obtained a fishing permit, may communicate their desire by radio before entering Peruvian waters, being obliged to set their course immediately to the nearest major Peruvian port in order to obtain the fish permit in the form provided by the present regulation. In this case, the ship in question will be relieved of the documentation which the Codes and Regulations provide for foreign flag vessels entering Peruvian ports.

The balance of the regulations spell out some extensive obligations and duties of permit holders, indicate the penalties for violations, and point out that the funds collected for fishing permits and registration will be deposited in an account which will be called "Funds for hydrobiological investigations."

Portugal

FISHERIES TRENDS, SEPTEMBER 1955: Sardine Fishing: The Portuguese sardine fleet in September 1955 maintained the high catch level attained during the preceding months of the 1955 season. The September 1955 catch totaled 15,976 metric tons (ex-vessel value US$1,737,000) of which 8,889 tons were purchased by the canners at a cost of US$1,015,000. The balance of the catch was practically all used by the fresh fish trade. The port of Matosinhos lead all others with a catch of 10,869 tons of sardines and contributed 6,151 tons (ex-vessel value US$615,000) to the canning trade.

Other Fishing: The landings of fish other than sardines totaled 1,993 tons, valued at US$218,000 ex-vessel. The catch of fish other than sardines was 67.4 percent chinchards (1,343 tons), followed by anchovy (359 tons), mackerel (152 tons), and tuna (137 tons). The fishery for bonito was about ended for the season and only 2 tons were reported, the December 1955 Conservas de Peixe reports.

Spain

SHRIMP FISHERY: Three species dominate the commercial shrimp catches of Spain. These are: the "gamba" (genus Penaeus); the "carabinero" (genus Aristeomorpha); and the "quisquilla" (genus Crangon), with a small percentage of the genus Palaemon. The entire catch is consumed in Spain, states a February 6 report from the United States Embassy in Madrid. The shrimp is either shipped as caught; or boiled, packed in coarse salt, and shipped in small boxes of about 11 pounds to the consuming centers.

Table 1 - Spain's Shrimp Catch, 1952-54

Species	1954	1953	1952
	... Metric Tons ...		
Gamba.....	10,824	8,122	9,247
Carabinero	872	970	849
Quisquilla	160	286	211
Total.....	11,856	9,378	10,307

Although there are no official figures which could reveal any exportation (the official customs statistics included canned shrimp among "all canned fish and seafood, excluding anchovies, sardines, and tuna"), all trade sources agree that the entire catch is consumed in Spain and that no canning is carried on.

The fishing area for both the "gamba" and the "carabinero" is the southwestern coast of Spain, between the South of Portugal and the Strait of Gibraltar, with the port of Huelva as the center. Between 75 and 83 percent of the total Spanish catch of "gamba," and between 80 and 85 percent of that of the "carabinero" is obtained there. The fishing area for the "quisquilla" includes two different shorelines: the eastern coast with Barcelona and Valencia as centers, where between 65 and 80 percent of the total catch is accounted for, and the northwestern shores, where practically all the rest of the catch is obtained.

The fishing seasons are: February through June for the "Gamba;" June through August for the "Carabinero;" and the cold months of October through February for the "Quisquilla." The vessels used are trawlers that are also engaged in other fisheries.

The total annual value of the shrimp catch is estimated to be close to US$4.2 million and prices per pound ex-vessel vary between US$0.26 and US$0.68. The average sizes of the shrimp (heads-on) are: Gamba, 38; carabinero, 18; and quisquilla, 105 to the pound.

Union of South Africa

PILCHARD SURVEY PROGRESS REPORT, 1954-55: The Union of South Africa's pilchard investigations for the fifth year (April 1, 1954-March 31, 1955) continued to follow the original scheme of research, according to the Director of Fisheries. A summary of the findings of the fifth year's investigations was presented in the December 1955 issue of The South African Shipping News and Fishing Industry Review.

Physical Environment: The sea area covered by the research vessels along the West Coast is discussed as a whole and as three subareas, viz., the outer, intermediate, and coastal areas. The commercial fishing area coincides mainly with the coastal area. The intermediate and outer areas are of great importance because of their direct influence on the water conditions near to the coast.

The following facts emerged from the year's work:

(1) The annual averages of temperature and salinity at the surface throughout the whole area did not differ materially from those of the previous year, but both were lower than the five-year average. The inorganic phosphate was lower than in the previous year but slightly above the five-year average.

(2) In the 0- to 164-foot layer the annual averages of temperature and salinity were both higher than in the previous year, the average temperature being less than the five-year average. The inorganic phosphate was less than in the previous year but equal to the five-year average.

(3) Subsurface currents were more in evidence in 1954/55 than in 1953/54.

(4) In 1954/55 the average temperatures of the surface and the 0- to 164-foot layer in the outer area and part of the intermediate area were the lowest yet recorded, while the salinity was about

the average of all years except 1951/52. In the coastal area the temperatures in both the surface and in the 0- to 164-foot layer, while higher than in 1953/54, were about the same as the five-year averages. The salinities, however, were higher than in 1953/54.

(5) At individual stations the average surface temperatures were lower than the five-year mean everywhere. Salinity and phosphate data, however, did not always fall into line with the low temperatures of the surface.

(6) It is not yet possible to say whether the annual averages of temperature, salinity, and inorganic phosphate are of significance in determining the distribution and availability of pilchards and maasbankers in the area under investigation.

(7) The average temperature of the surface layer was colder in the summer of 1954/55 than in any previous summer.

(8) In the routine area as a whole, the seasons when maximum salinity, temperature, and inorganic phosphate may be expected in the surface are winter-spring, summer-autumn, and winter respectively. Minima tend to be present in summer-autumn, winter-spring, and spring-summer respectively.

(9) According to drift-card experiments off the west coast, north-going inshore currents were most in evidence in summer, whereas south-going inshore currents were mostly found from late autumn to spring.

(10) Evidence of anticlockwise tidal currents was found in St. Helena Bay.

(11) The increased winter outflow of the Berg River considerably diluted the surface salinity inshore as far north as Lambert's Bay.

Plankton: Once again it can be stated that the St. Helena Bay area favored the growth of all forms of plankton which provided the main source of food for the pilchards and maasbankers of the West coast fishery.

The following findings of importance were made:

PHYTOPLANKTON: (1) Laboratory counts, done on samples from the St. Helena Bay area, showed that heavy blooms of phytoplankton occurred during every month of the period under review except in April, May, and July 1954.

(2) Some evidence was found which indicated a direct relationship between phytoplankton blooms and the temperature, salinity, and inorganic phosphate content of the water. This relationship is being investigated in detail.

(3) The concentration of phytoplankton in the commercial fishing area was at its peak in spring and summer.

ZOOPLANKTON: (1) The composition of the zooplankton by genera was in general similar to that of the previous year.

(2) The seasonal fluctuations in the quantity of zooplankton in the whole area of research corresponded with those of the previous year, but the average volume in each season was lower than in 1953/54.

(3) In the coastal area also the average volume in each season was lower in 1954/55 than in 1953/54. The seasonal fluctuations in the quantity were different in the two years in that summer concentration of 1953/54 was high in relation to the other seasons, whereas the summer concentration of 1954/55 was relatively low.

The Fish: A considerable amount of data on various aspects of the biology of the pilchard and the maasbanker was collected during the year. Unfortunately, it was not possible to analyze in detail the data on the maasbanker. Consequently the findings in relation to this species are still rather scant. As regards the pilchard, however, a considerable amount of additional information was obtained from the year's work.

The findings to date in regard to the biology of the pilchard and the maasbanker can be stated briefly as follows:

(a) REPRODUCTION: Pilchard: (1) The estimated number of eggs spawned by a female pilchard per season is approximately 100,000.

(2) The size of the fish at first maturity is at a standard length of ± 18 cm. All pilchards are mature at ± 21 cm.

(3) Although the pilchard spawns in all seasons of the year, the main spawning period is from September to February, i.e., the pilchard is mainly a spring and summer spawner.

(4) The spawning seasons for Union and South-West African pilchards appear to be the same.

(5) Pilchards move away from St. Helena Bay for purposes of spawning and their incidence in the area of commercial fishing is highest when they are sexually least active. Although spawning takes place in St. Helena Bay, it varies in degree from year to year and the main spawning area is situated offshore, outside the commercial fishing area.

Maasbanker: It has not been possible yet to make a detailed analysis of the data collected in this respect. The indications are that the main reproductive activity occurs in the winter months.

(b) COMPOSITION OF THE CATCH: Pilchard: (1) The majority of pilchards caught off the west coast of the Union are fish of standard lengths ranging from 21 to 24 cm. This means that the pilchard catch consists mainly of sexually-mature fish. (According to the second Pilchard Research Report for South-West Africa, the commercial catch there consists of smaller fish, mainly in groups of standard length 19.5-22.5 cm. It is likely, therefore, that a considerable proportion of South-West Africa's pilchard catch is comprised of sexually-immature fish.)

(2) The mean ratio of males to females in the Union's commercial catch is 44:56.

(3) Evidence obtained from age studies, though not conclusive, indicates that the majority of pilchards in the Union's commercial catch are from three to five years old.

Maasbanker: It has not been possible so far to process the data on the composition of catch for this species.

(c) FEEDING: Pilchard: The previous finding that the pilchard is a plankton feeder with an apparent preference for phytoplankton was confirmed. It is unlikely, however, that definite selection of food organisms is made and the relative absence of zooplankton in pilchard stomachs may be connected with the varying rates of digestion of phyto- and zooplankton.

Maasbanker: The findings of the previous year were confirmed. Small maasbanker were found to feed exclusively on zooplankton, consisting mainly of crustaceans such as copepods, amphipods, and euphausiids. Large maasbankers fed on zooplankton, particularly amphipods, and on a considerable variety of small fish. Large maasbankers may be regarded as predators of juvenile pilchards.

(d) CONDITION FACTOR: Pilchard: (1) Throughout the year the biological condition factor, i.e. the weight length relationship, of male pilchards was identical with that of the females. This finding corresponds with those of the previous years. In general the seasonal fluctuations of the condition factor are as follows: it is high in summer, reaches a maximum in March, declines rapidly during autumn to a minimum in August, and begins to rise again in late spring.

(2) There appears to be a direct relationship between the seasonal fluctuations of the condition factor and the fatness of the pilchard as indicated by its oil yield. (Data on oil yield were obtained from factory production returns and not by means of laboratory analysis. It is felt that the industrial statistics of oil production may be somewhat misleading because factories do not draw a sharp distinction between oil produced from pilchards and that obtained from maasbankers. The above finding therefore needs to be confirmed by detailed laboratory analysis of the fish.)

(3) Condition factor shows no apparent relationship with the softness which affects pilchards at certain times of the year.

Maasbanker: (1) The condition factor of the two sexes was identical throughout the year.

(2) As in the previous year the condition factor was highest in summer, declined in autumn to reach a minimum in winter, and rose again in spring.

(3) PREDATORS: Pilchard: (1) The Gannet Cape Cormorant and Jackass Penguin are important predators of the pilchard. It is estimated that gannets consume approximately 37,000 metric tons and cormorants about 1,800 tons of pilchards a year in the St. Helena Bay area alone. It has not been possible yet to estimate the quantity eaten by penguins.

(2) Other important predators of pilchards are snoek, seals, and stockfish.

Maasbanker: Gannets are estimated to consume about 12,000 tons and cormorants about 550 tons of maasbankers a year in the St. Helena Bay area. The quantity consumed by penguins cannot be estimated as yet.

Note: See Commercial Fisheries Review, February 1955, p. 69.

The Fishery: The landings of pilchard and maasbanker in the Union during the 1954 calendar year amounted to 220,693 short tons of which 91,322 tons were pilchards and 129,371 tons maasbanker. The catches for the past four calendar years are shown in table 1.

Table 1 - Union of South Africa's Pilchard and Maasbanker Catches, 1951-54

Year	Pilchard	Maasbanker	Total
		(Short Tons)	
1954	91,322	129,371	220,693
1953	150,987	93,140	244,127
1952	187,424	113,136	300,560
1951	109,610	111,292	220,902

This table is naturally a temptation for those inclined to theorize in statistics, but in actual fact the figures cast no light on the fundamental question of what effect fishing is having on the stocks. In the first instance, reliable evidence of the level of fishing intensity in each year is lacking, and secondly the distinction between the catches of pilchard and maasbanker is by no means a sharp one. In other words, any attempt to arrive at the catch per unit of effort is in vain. The value of these catch figures lies only in their historic interest and in the fact that they are needed in relation to closing the fishery annually, if it so happens that the permissible 250,000 tons are caught.

The truth of the whole matter is that we cannot begin to understand the population dynamics of the pilchard and the maasbanker unless the following statistics are made available by the commercial fishery:

(1) Accurate catch returns for the pilchard and the maasbanker, separately.

(2) Accurate data in respect of the fishing intensity (effort).

(3) Accurate data on tag recovery, once tagging has started.

Over a number of years these data, when fully processed together with the basic "vital statistics" which are being compiled continuously by us, and coupled with the results of current environmental studies, should enable us to keep a finger on the pulse of the resources.

The above observations show that proper conservation of the resources cannot be achieved on the strength of our present knowledge, i.e. we do not know at which level and in what manner the stocks should be fished to insure a sustained yield of maximum size and quality. But although knowledge in this respect is lacking, it does not necessarily follow that there should be no control over the fishery. On the contrary, there is quite enough justification for control, especially when the economic and social aspects are considered. For the present, therefore, we can do no better than to continue with the somewhat arbitrary system of regulation and regard it as a policy of "precautionary conservation."

United Kingdom

COMMERCIAL FISH LANDINGS AT HULL UP IN 1955: The Hull fleet of 143 distant-water trawlers landed 562.3 million pounds of fish in 1955, or close to 40 million pounds more than in 1954, but about 4.6 million pounds less than in 1952. The Hull fleet in 1955 was smaller by 5 vessels than in 1954, but the size and fishing capacity of the boats more than compensated for the lesser number of fishing craft. In addition to the landings at Hull, trawlers from that port landed about 49 million pounds at Grimsby.

The increased landings were made with shorter trips to the banks, averaging 20.8 days in 1955 as compared with 23 days in 1952. In addition, the catch per vessel per day at sea for the first 11 months of 1955 increased to 13,286 pounds from 11,718 pounds for the same 11 months of 1954.

The over-all average ex-vessel price for fish landings at Hull declined from about 5.81 cents a pound in 1954 to 5.73 cents for the first 11 months of 1955. The average prices are based on not only the sales on the open market, but also those sales made through other channels at lower prices.

The Hull fishing fleet is largely a deep-water fleet and during 1955 landings from the Bear Island grounds doubled, but some increases were noted for landings from the White Sea and from waters off the Norwegian coast. There was very little production from the Greenland fishing grounds and catches from the Iceland area decreased, states the January 6, 1956 Fishing News, a British fisheries magazine.

Disposition of Hull Fish Landings, 1954-55

Sales to:	Quantity	
	1955	1954
	(Millions of Lbs.)	
Fresh-fish trade	498.4	486.1
Salt-fish trade	13.5	15.8
Animal-food manufacturers	9.7	12.1
Unsold 1/	40.0	7.4
Condemned 1/	0.7	1.6
Total Landings	562.3	523.0

1/ Probably went to byproducts plants.

The 1955 landings at Hull were absorbed mainly by the fresh-fish trade--498.4 million pounds (see table).

* * * * *

SHRIMP FISHERY OF GREAT BRITAIN: The shrimp fishery of England, Scotland, and Wales is relatively small with annual catches averaging close to 4 million pounds during the 1952-54 period. In British fisheries statistics a distinction is made between the terms "shrimp" and "prawn," with the term "prawn" applied to the varieties commonly referred to as shrimp in the United States. The term "shrimp" is applied to the small varieties common in North Atlantic waters, a February 6 dispatch from the American Embassy in London points out.

The species of shrimp taken include the brown shrimp (Crangon vulgaris), the pink shrimp (Pandalus montagui), and the prawn (Leander serratus). The catch of prawn is light or only about 16,000 pounds a year. The shrimp are taken on both the east and west coasts of England and in a few restricted areas on the Scottish and Welsh coasts.

The principal method of fishing is by beam trawls, varying in width from 18-24 feet; small (25-50) vessels are used. On the northwest coast a "shank net" is used--a rigid-footed dredge net about 12 feet in width which can be drawn by boat or by a horse in shallow water. On rocky bottom near shore, pots and hoop (fyke) nets are used.

The pink shrimp are caught from mid-April to the end of November, the brown shrimp are taken throughout the year, except in very cold weather.

The catch of shrimp in Scottish waters is estimated to average about 224,000 (US$31,000 ex-vessel value) a year.

England and Wales Shrimp Catch, 1952-54

Year	Shrimp		Prawn	
	Quantity 1/	Value	Quantity 1/	Value
	1,000 Lbs.	1,000 US$	1,000 Lbs.	1,000 US$
1954	4,039	450	17	11
1953	4,170	400	12	8
1952	3,790	374	17	11

1/ Heads on.

There is no direct form of Governmental assistance for the shrimp fishermen. There is a 30-percent import duty on imported shrimp. The shrimp fishermen do not participate in the White Fish Subsidy Scheme, but they may qualify for financial assistance under the White Fish Authority in the formation of fishermen's co-operatives.

Fishermen engaged in the shrimp industry have, in the past, derived benefit from the Inshore Fishing Industry Act in the form of loans and grants for provision of boats and engines, but such financial assistance is now confined to fishermen engaged in fishing for white fish.

The brown shrimp attains a length of 2 to 3 inches (heads on), but the pink shrimp averages only 2 inches in length. Prawns may reach 4 inches.

Shrimp exports are not recorded separately, but as part of the shellfish category. It is believed, however, that limited quantities of shrimp have been exported to the United States during the past two years.

* * * * *

SUBSIDY PLAN FOR CRAFT FISHING WHITE FISH REVISED: Full details of the changes in the rates and conditions of payment of the white-fish subsidy, under the United Kingdom's White Fish Subsidy No. 2 Scheme, 1955, approved by Parliment in December 1955, were announced by the Ministry of Agriculture and Fisheries and the Scottish Home Department. The new rates came into operation on January 2, 1956.

The new scheme provides for grants of 8d. a stone (US$0.67 a hundred pounds) for drawn fish and 6d. a stone (US$0.50 a hundred pounds) for fish in the round landed from inshore vessels of 70 feet and under in length.

Up to December 31, 1955, vessels between 70 and 140 feet in length received a flat-rate subsidy of 4d. a stone (US$0.33 a hundred pounds) for drawn fish landed and 3d. (US$0.25 a hundred pounds) for fish in the round. These rates were reduced to 2d. a stone (US$0.17 a hundred pounds) for drawn fish and 1d. a stone (US$0.08 a hundred pounds) for round fish.

These vessels may also receive payments for each voyage. The voyage rates for steam vessels are to be increased. Those for motor vessels remain unchanged, reports the January 16 issue of The Fishing News.

Other minor changes are the extension of the special rates hitherto paid for Faroese voyages, to Shetland voyages, and to vessels engaged in a hitherto unpractised method of fishing known as three-ship "pair" fishing. Provision is also made for seine-net vessels of 70 feet and under normally making voyages of at least eight days to receive a combination of voyage and landings payments instead of landings payments only as hitherto.

The United Kingdom White Fish and Herring Industries Act, 1953, provides that in order to promote the landings of a continuous and plentiful supply of white fish (all sea fish except herring, salmon, migratory trout, and shellfish), a plan may be made for the payment of grants to the owners or charterers of fishing vessels not exceeding 140 feet in registered length engaged in catching such fish. The 1955 plan revokes the White Fish Subsidy Act in effect during 1955, and provides for payment of grants at revised rates in respect of voyages made and fish landed by vessels fishing the near- and middle-water grounds (between 43 and 63 degrees north latitude, longitude 17 degrees west), and for grants in respect to landings of fish by inshore vessels, during the period beginning on January 1, 1956, and ending July 31, 1956. The conditions under which grants may be paid remain the same as those under the previous plan, save for the provision that seine-net vessels not exceeding 70 feet in over-all length normally making voyages lasting more than 7 days may receive voyage and landing payments on the basis hitherto applicable only to vessels exceeding 70 feet in length.

Note: Values converted to US$ equivalents on the basis of 1d. equals US$0.0117.

WHY PORTION CONTROL IS IMPORTANT

The aim of the food service executive is to place before his patrons wholesome food properly portioned and correctly priced for profit; hence the food portion is the key to the entire food-control problem. This is becoming a prime factor in the choice of fish and shellfish purchases by restaurant operators and others concerned with the preparation of volume meals.

The restaurant operator must know the kinds of foods that will sell, the number of portions, and the price of each ready-to-serve portion. With this information, it is possible to begin with purchasing and planning each step of the preparation and cooking process.

Purchase control means regulating the quantity, kind, size, and weight of the materials that go into the finished products. Today, the smart restaurant executive or owner knows that it is difficult to control all of the possible losses in food processing. He, therefore, is increasingly interested in purchasing more ready-to-serve items. Among these are portioned fish, meat, poultry, vegetables, and fruits, as well as ready-mixed and portioned soups, juices, jams, and jellies. All of these items are table-ready or almost so, and lend themselves to very exact portion control.

Processors of fishery products have been leaders in the field of portion processing. As competing foods follow the same trend, there will be increased sales competition. Expanded sales will depend largely upon the ability of the industry to meet the buyers needs and specifications.

FEDERAL ACTIONS

Department of the Interior

FISH AND WILDLIFE SERVICE

ALASKA 1956 HERRING CATCH QUOTA RAISED:

Improved conditions in the herring fishery of southeastern Alaska will permit the catch quota for reduction purposes to be increased to 17,500 tons (140,000 barrels) during the 1956 fishing season, the Director of the U. S. Fish and Wildlife Service announced February 16 in an amendment to the Alaska commercial fishing regulations. In 1955, the catch quota was limited to 100,000 barrels.

Of the 1956 total of 17,500 tons, a limit of 6,250 tons (50,000 barrels) will be permited from the important Sitka populations. In addition, two small areas that were previously closed to fishing will be opened this year for the taking of herring for use as bait. One of these areas is in Silver Bay, at Sitka; the other at Fish Egg Island, at Craig. In each area herring fishing is restricted to a take of 125 short tons for bait purposes.

There is no change in the regulations for Prince William Sound and Kodiak.

The Director stated that Service biologists report that Alaska herring are increasing from their low numbers of past years. Natural conditions in Alaskan waters during the past 3 or 4 years have been favorable for the growth of herring, as a result of which an increase in the 1956 supply is indicated. After several public hearings and meetings in Alaska, at which recommendations by interested persons and the findings of Service biologists were discussed, substantial public support of the Service's proposals was voiced.

The Service's proposals for 1956 will prepare the stage for further research to test the effects of fishing on the conservation of Alaska herring by setting aside the Juneau herring population for study purposes. Purse-seining of these fish, except for bait, will be prohibited.

At the same time the Service is allowing limited fishing on the Sitka, Craig, and Ketchikan herring stocks. Careful studies of spawning and population growth will point up the effects on the fishery.

The five-year study program will be carried out with the active participation of herring fishermen, Alaska salmon trollers, and herring bait fishermen. By the end of that time, the southeastern Alaska herring catch will be on a maximum sustained yield basis, insuring the proper conservation of this valuable species.

Eighty-Fourth Congress (Second Session)

Public bills and resolutions that directly or indirectly affect the fisheries and allied industries are listed--they are shown when introduced; then from month to month the more pertinent reports, hearings, or chamber actions on the bills listed are indicated; and bills, if passed, are then shown again when signed by the President.

COMMERCIAL FISHERIES NATIONAL POLICY: H. R. 9552 (King of California) introduced in the House February 27; a bill to establish a sound and comprehensive national

policy with respect to the development, conservation for preservation, management, and use of fisheries resources, to create and prescribe the functions of the United States Fish Commission, and for other purposes; to the Committee on Interstate and Foreign Commerce.

Also H. R. 9700 (Pelly), 3/1/56, similar to H. R. 9552; both H. R. 9552 and H. R. 9700 are similar to S. 3275. See Commercial Fisheries Review, March 1955, p. 53.

FAIR LABOR STANDARDS ACT AMENDMENT: H. R. 8553 (Roosevelt), a bill to amend the Fair Labor Standards Act of 1938, as amended, introduced in the House January 17. Provides greater coverage for employees of food industries whose activities affect interstate commerce than does the now existing Act. This bill proposes to extend coverage to those persons in industries engaged in "activities affecting commerce." As stated in section 3, (p) of H. R. 8553, " 'activities affecting commerce' includes any activity in commerce necessary to commerce or competing with any activity in commerce, or where the payment of wages at rates below those prescribed by this Act would burden or obstruct or tend to burden or obstruct commerce or the free flow of commerce." In addition, H. R. 8553 would have a specific effect on the fishing industry of the United States. Certain exemptions from the minimum wage provisions and maximum hours provisions of the Fair Labor Standards Act of 1938, as amended, are removed by this Bill. The Fair Labor Standards Act of 1938 is amended by H. R. 8553 by striking out subparagraph 5 of section 13 (a) which provides wage and hour exemptions for "any employee employed in the catching, taking, harvesting, cultivating, or farming of any kind of fish, shellfish, crustacea, sponges, seaweeds, or other aquatic forms of animal and vegetable life, including the going to and returning from work and including employment in the loading, unloading, or packing of such products for shipment or in propagating, processing (other than canning), marketing, freezing, curing, storing, or distributing the above products or byproducts thereof;" The Fair Labor Standards Act is further amended by striking out subparagraph (4) of section 13(b), which provides "any employee employed in the canning of any kind of fish, shellfish, or other aquatic forms of animal or vegetable life, or any byproduct thereof; "be exempt from the maximum hours provisions of the Act. Should the amendments provided by H. R. 8553 be put into effect, all phases of the fishing industry would be covered by the minimum wage rate of $1 which goes into effect March 1, 1956, and it would be necessary to compensate all employees in the fishing industry at a rate not less than one and one-half times the regular rate for a workweek longer than forty hours, or a workday longer than eight hours.

February 29: S. 3310 (Mc Namara) introduced in the Senate and similar to H. R. 8553.

FISHERIES STABILIZATION CORPORATION: S. 3339 (Magnuson and Kuchel) introduced in the Senate March 1; a bill to provide for the stabilization of the domestic fisheries industry in the United States through the creation of a Fisheries Stabilization Corporation, to bring about a better balance flow of fish and shellfish and the products thereof in interstate and foreign commerce, and for other purposes; to the Committee on Interstate and Foreign Commerce. The Corporation provided for by this bill would be authorized to take steps to stabilize and revive the fishing industry through the making of loans to fishermen for boats and gear and to fish processors and others engaged in any phase of fisheries activities. The Corporation would have a capital of $5 million fully subscribed by the Federal Government, and it would be authorized to issue bonds to obtain additional funds to carry on its work.

IMPORT QUOTAS: H. R. 9563 (Mollohan) introduced in the House February 27; a bill to regulate the foreign commerce of the United States by establishing import quotas under specified conditions and for other purposes; to the Committee on Ways and Means. Similar to 12 other companion bills introduced in the House.

NATIONAL FISH WEEK: Senate Committee on the Judiciary on February 27 indefinitely postponed further action on S. J. Res. 89, designating the period October 3-8, 1955, as National Fish Week. This resolution was introduced in the First Session of this Congress.

WATER POLLUTION: H. R. 9540 (Blatnik) introduced in the House February 27; a bill to extend and strengthen the Water Pollution Control Act; to the Committee on Public Works. Similar to several other bills introduced into the House.

TRAMMEL NETS

Trammel nets are similar to gill nets, but have two or three walls of netting instead of one. They are sometimes called "tangle nets." Two or three sheets of netting are suspended from a common cork line and attached to a common bottom, or lead line. The outer nets are of fine mesh, loosely hung, while the inner guard nets are usually of much larger meshes. They are so constructed that a fish striking from either side pushes the fine-mesh net through the large meshes and is entrapped in a pocket. Fish caught in trammel nets are often alive when picked up, and may be of superior quality for this reason.

--Sea Secrets,
The Marine Laboratory,
University of Miami,
Coral Gables, Fla.

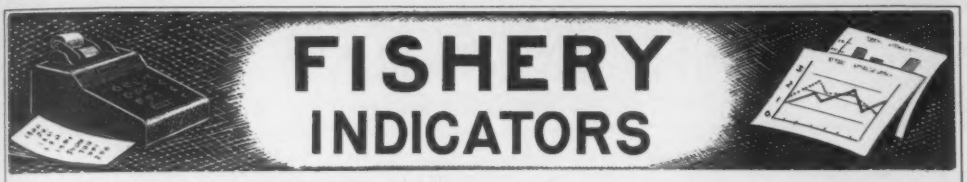


CHART 1 - FISHERY LANDINGS for SELECTED STATES

In Millions of Pounds

Legend:
1956
1955
1954

MAINE

CUMULATIVE DATA
1 MO. 1956 - 5.5
1 1955 - 6.1
12 MOS. 1955 - 255.4

MASSACHUSETTS

CUMULATIVE DATA
12 MOS. 1955 - 515.3
12 1954 - 492.2

FLORIDA

CUMULATIVE DATA
12 MOS. 1955 - 121.5
12 1954 - 170.8

LOUISIANA 1/

CUMULATIVE DATA
2 MOS. 1956 - 5.3
2 1955 - 7.1
12 MOS. 1955 - 67.3

1/ONLY PARTIAL--INCLUDES LANDINGS AT PRINCIPAL PORTS.

NEW JERSEY

CUMULATIVE DATA
1 MO. 1956 - 3.4
1 1955 - 3.1
12 MOS. 1955 - 408.7

TEXAS

CUMULATIVE DATA
1 MO. 1956 - 3.5
1 1955 - 5.7
12 MOS. 1955 - 124.6

CALIFORNIA 2/

CUMULATIVE DATA
1 MO. 1956 - 61.0
1 1955 - 31.6
12 MOS. 1955 - 639.5

OREGON

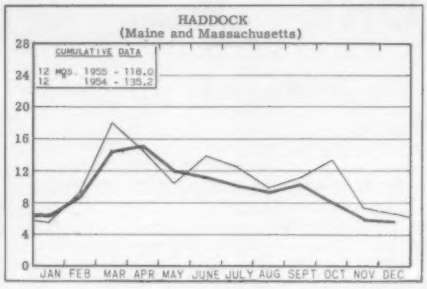
CUMULATIVE DATA
1 MO. 1956 - 1.1
1 1955 - 1.8
12 MOS. 1955 - 45.5

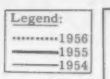
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

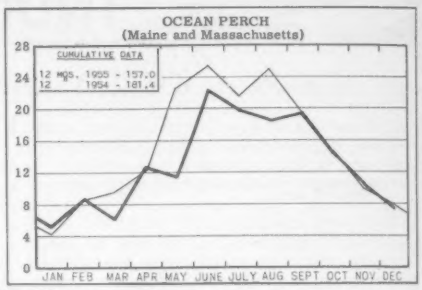
2/ONLY PARTIAL--INCLUDING PRODUCTION OF MAJOR FISHERIES AND MARKET FISH LANDINGS AT PRINCIPAL PORTS.

CHART 2 - LANDINGS for SELECTED FISHERIES

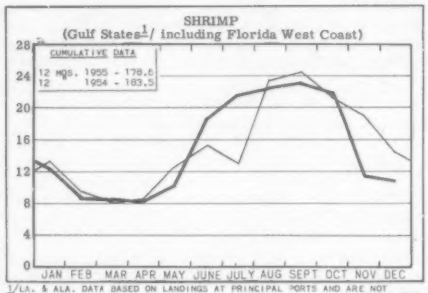
In Millions of Pounds

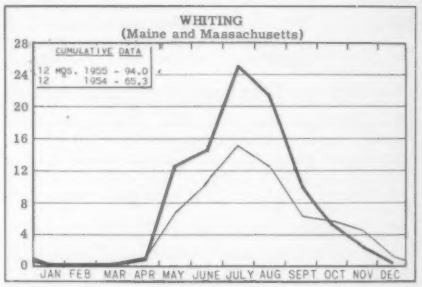

HADDOCK
(Maine and Massachusetts)
CUMULATIVE DATA
12 MOS. 1955 - 118.0
12 " 1954 - 135.2
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC




OCEAN PERCH
(Maine and Massachusetts)
CUMULATIVE DATA
12 MOS. 1955 - 157.0
12 " 1954 - 181.4
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

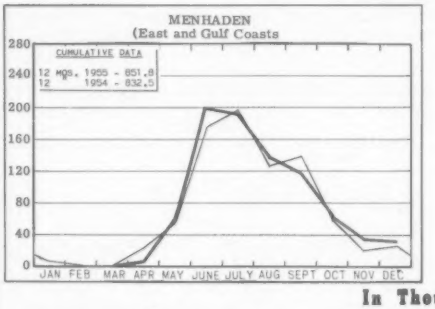
In Millions of Pounds

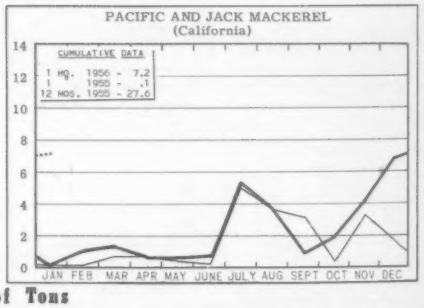

SHRIMP
(Gulf States 1/ including Florida West Coast)
CUMULATIVE DATA
12 MOS. 1955 - 178.6
12 " 1954 - 183.5
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC


WHITING
(Maine and Massachusetts)
CUMULATIVE DATA
12 MOS. 1955 - 94.0
12 " 1954 - 65.3
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

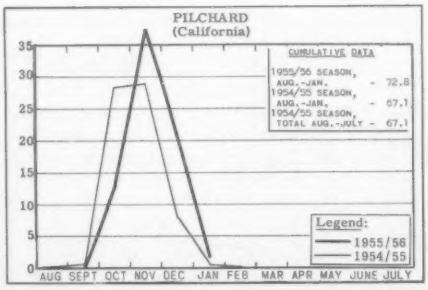
1/LA. & ALA. DATA BASED ON LANDINGS AT PRINCIPAL PORTS AND ARE NOT COMPLETE.

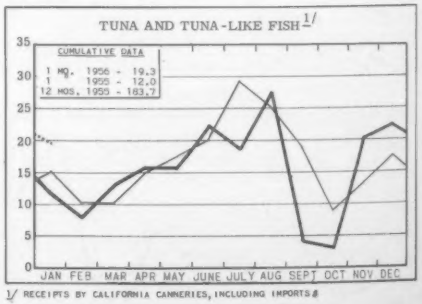
In Thousands of Tons


MENHADEN
(East and Gulf Coasts
CUMULATIVE DATA
12 MOS. 1955 - 851.8
12 " 1954 - 832.5
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC


PACIFIC AND JACK MACKEREL
(California)
CUMULATIVE DATA
1 MO. 1956 - 7.2
1 " 1955 - .1
12 MOS. 1955 - 27.6
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

In Thousands of Tons

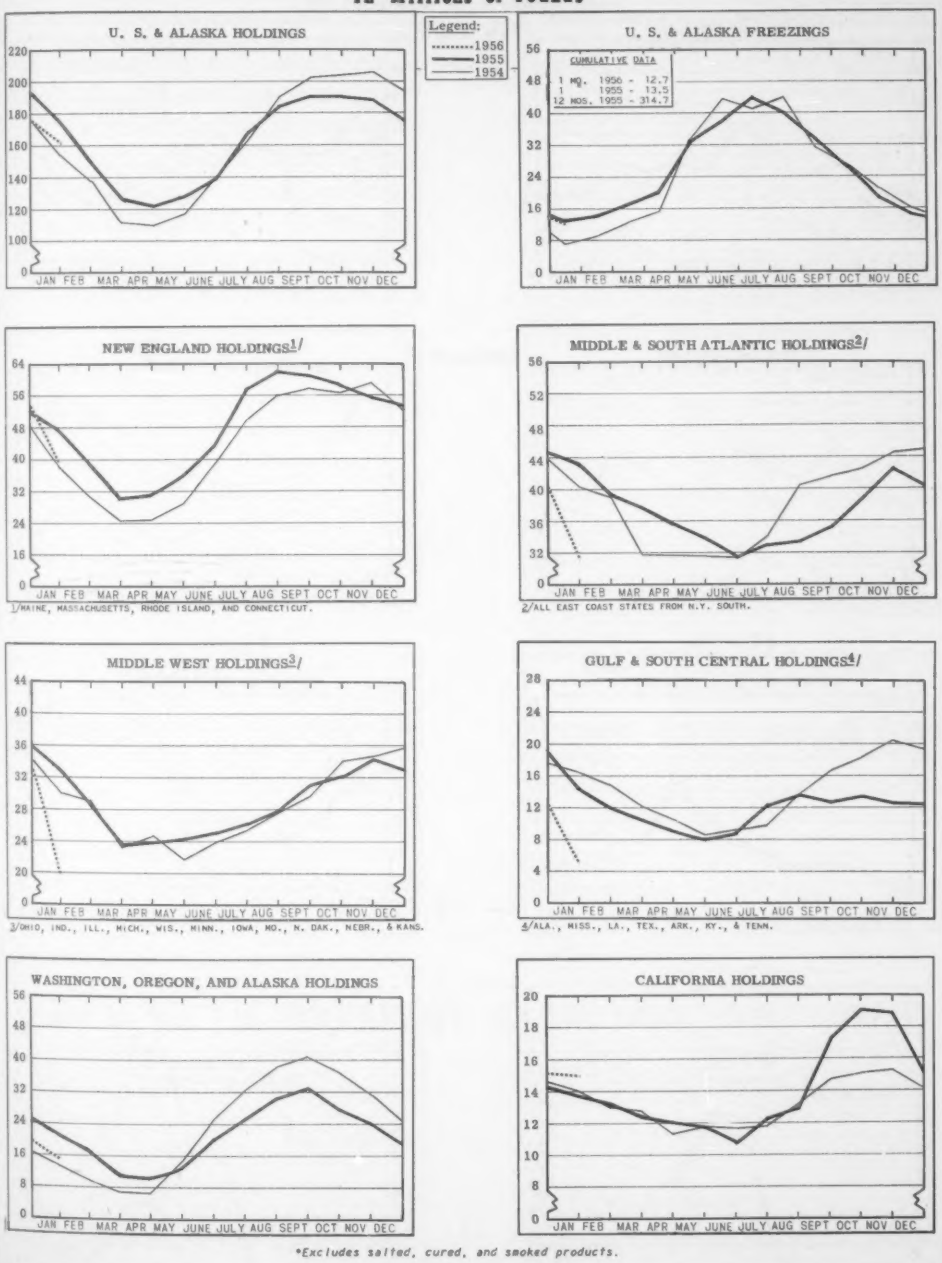



TUNA AND TUNA-LIKE FISH 1/
CUMULATIVE DATA
1 MO. 1956 - 19.3
1 " 1955 - 12.0
12 MOS. 1955 - 163.7
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

1/ RECEIPTS BY CALIFORNIA CANNERIES, INCLUDING IMPORTS.

CHART 3 - COLD-STORAGE HOLDINGS and FREEZINGS of FISHERY PRODUCTS *

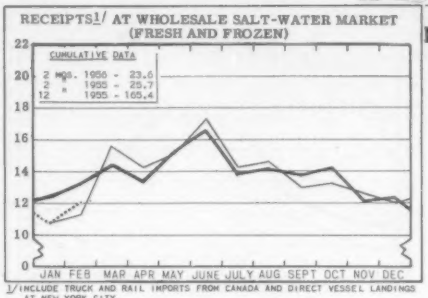
In Millions of Pounds


U. S. & ALASKA HOLDINGS
Legend:
1956
1955
1954
U. S. & ALASKA FREEZINGS
CUMULATIVE DATA
1 MO. 1956 - 12.7
1 1955 - 13.5
12 MOS. 1955 - 314.7
NEW ENGLAND HOLDINGS1/
MIDDLE & SOUTH ATLANTIC HOLDINGS2/
1/MAINE, MASSACHUSETTS, RHODE ISLAND, AND CONNECTICUT.
2/ALL EAST COAST STATES FROM N.Y. SOUTH.
MIDDLE WEST HOLDINGS3/
GULF & SOUTH CENTRAL HOLDINGS4/
3/OHIO, IND., ILL., MICH., WIS., MINN., IOWA, MO., N. DAK., NEBR., & KANS.
4/ALA., MISS., LA., TEX., ARK., KY., & TENN.
WASHINGTON, OREGON, AND ALASKA HOLDINGS
CALIFORNIA HOLDINGS
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

*Excludes salted, cured, and smoked products.

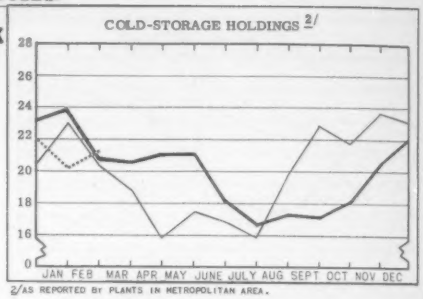
CHART 4 - RECEIPTS and COLD-STORAGE HOLDINGS of FISHERY PRODUCTS at PRINCIPAL DISTRIBUTION CENTERS

In Millions of Pounds

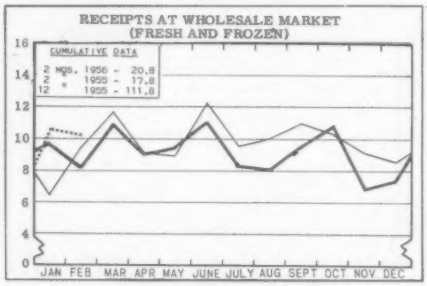

RECEIPTS 1/ AT WHOLESALE SALT-WATER MARKET
(FRESH AND FROZEN)
CUMULATIVE DATA
2 MOS. 1956 - 23.6
2 " 1955 - 25.7
12 " 1955 - 165.4
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

1/INCLUDE TRUCK AND RAIL IMPORTS FROM CANADA AND DIRECT VESSEL LANDINGS AT NEW YORK CITY.

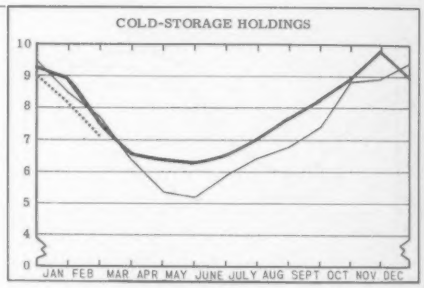
NEW YORK CITY



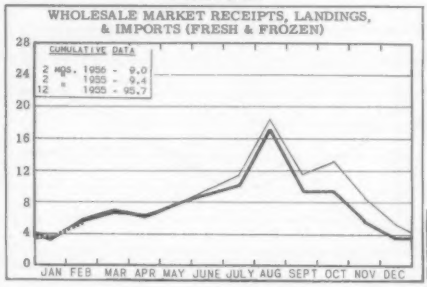
2/AS REPORTED BY PLANTS IN METROPOLITAN AREA.


RECEIPTS AT WHOLESALE MARKET
(FRESH AND FROZEN)
CUMULATIVE DATA
2 MOS. 1956 - 20.8
2 " 1955 - 17.8
12 " 1955 - 111.8
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

CHICAGO



SEATTLE


WHOLESALE MARKET RECEIPTS, LANDINGS,
& IMPORTS (FRESH & FROZEN)
CUMULATIVE DATA
2 MOS. 1956 - 9.0
2 " 1955 - 9.4
12 " 1955 - 95.7
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

Legend:
1956
1955
1954

BOSTON

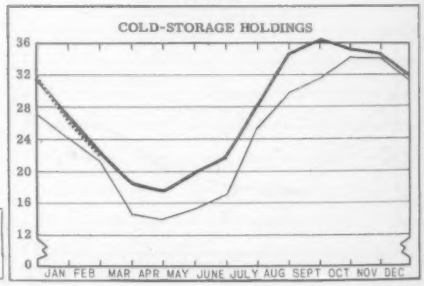
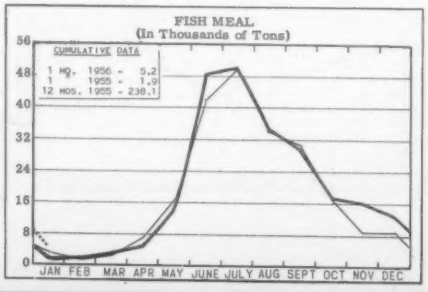


CHART 5 - FISH MEAL and OIL PRODUCTION - U.S and ALASKA


FISH MEAL
(In Thousands of Tons)
CUMULATIVE DATA
1 MO. 1956 - 5.2
1 " 1955 - 1.9
12 MOS. 1955 - 238.1
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

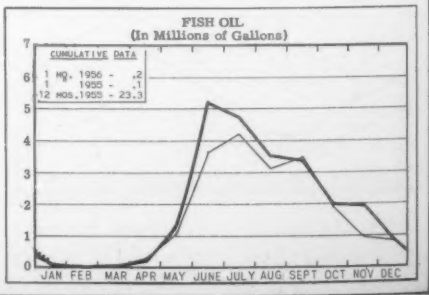
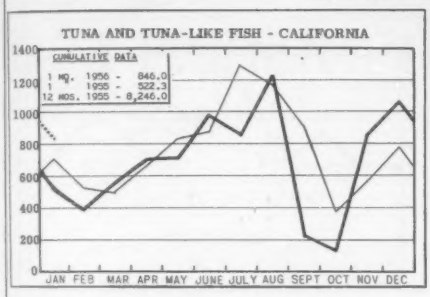
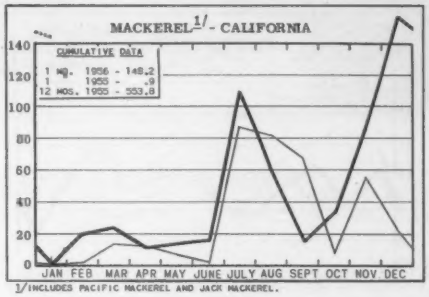

FISH OIL
(In Millions of Gallons)
CUMULATIVE DATA
1 MO. 1956 - .2
1 " 1955 - .1
12 MOS. 1955 - 23.3
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

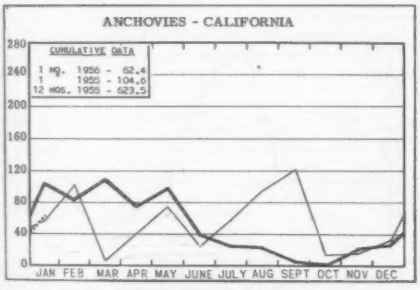
CHART 6 - CANNED PACKS of SELECTED FISHERY PRODUCTS

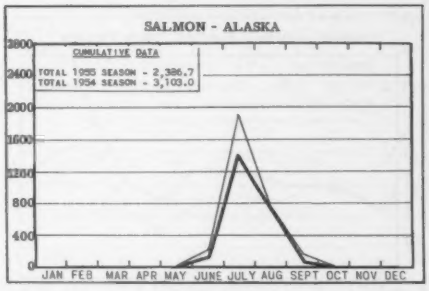
In Thousands of Standard Cases

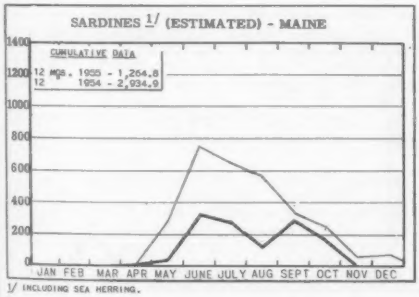

TUNA AND TUNA-LIKE FISH - CALIFORNIA
CUMULATIVE DATA
1 MO. 1956 - 846.0
1 1955 - 522.3
12 MOS. 1955 - 8,246.0
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC


MACKEREL 1/ - CALIFORNIA
CUMULATIVE DATA
1 MO. 1956 - 148.2
1 1955 - .9
12 MOS. 1955 - 553.8
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

1/ INCLUDES PACIFIC MACKEREL AND JACK MACKEREL.


ANCHOVIES - CALIFORNIA
CUMULATIVE DATA
1 MO. 1956 - 62.4
1 1955 - 104.6
12 MOS. 1955 - 623.5
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

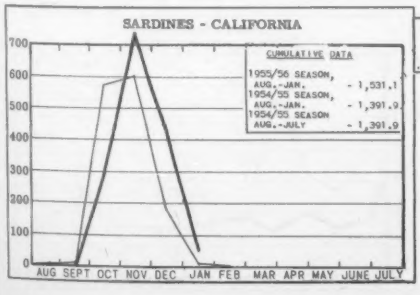

SALMON - ALASKA
CUMULATIVE DATA
TOTAL 1955 SEASON - 2,386.7
TOTAL 1954 SEASON - 3,103.0
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

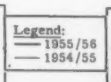

SARDINES 1/ (ESTIMATED) - MAINE
CUMULATIVE DATA
12 MOS. 1955 - 1,264.8
12 1954 - 2,934.9
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

1/ INCLUDING SEA HERRING.

STANDARD CASES

Variety	No. Cans	Can Designation	Net Wgt.
SARDINES	100	¼ drawn	3¼ oz.
SHRIMP.....	48	--	5 oz.
TUNA	48	No. ½ tuna	6 & 7 oz.
PILCHARDS	48	No. 1 oval	15 oz.
SALMON	48	1-pound tall	16 oz.
ANCHOVIES	48	½ lb.	8 oz.


SARDINES - CALIFORNIA
CUMULATIVE DATA
1955/56 SEASON, AUG.-JAN. - 1,531.1
1954/55 SEASON, AUG.-JAN. - 1,391.9
1954/55 SEASON AUG.-JULY - 1,391.9
AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY



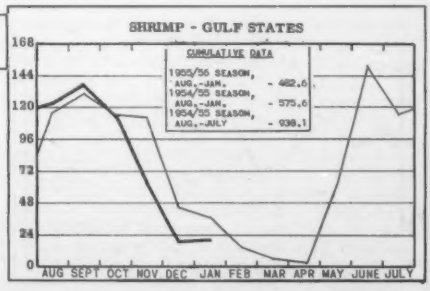
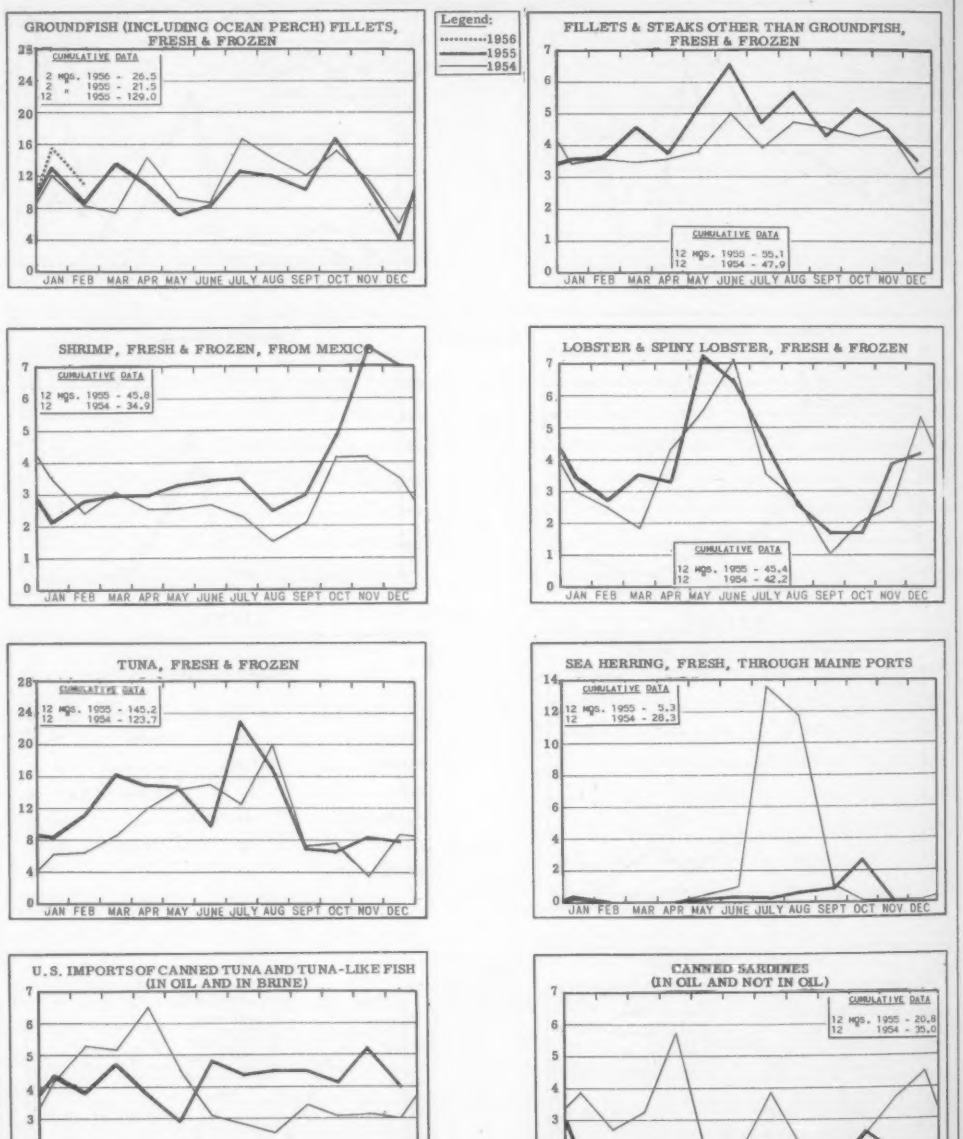
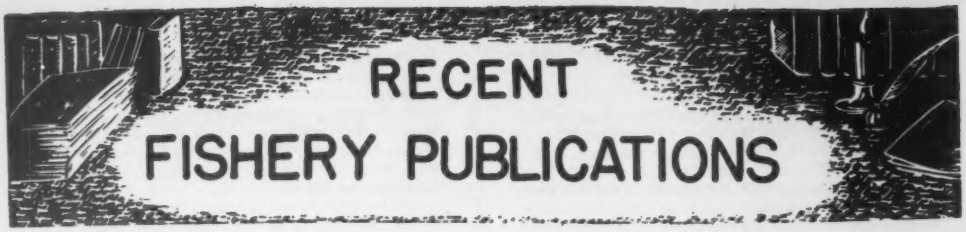

SHRIMP - GULF STATES
CUMULATIVE DATA
1955/56 SEASON, AUG.-JAN. - 482.6
1954/55 SEASON, AUG.-JAN. - 575.6
1954/55 SEASON, AUG.-JULY - 938.1
AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE JULY

CHART 7 - U.S. FISHERY PRODUCTS IMPORTS

In Millions of Pounds


GROUNDFISH (INCLUDING OCEAN PERCH) FILLETS, FRESH & FROZEN
CUMULATIVE DATA
2 MOS. 1956 - 26.5
2 " 1955 - 21.5
12 " 1955 - 129.0
Legend:
1956
1955
1954
FILLETS & STEAKS OTHER THAN GROUNDFISH, FRESH & FROZEN
CUMULATIVE DATA
12 MOS. 1955 - 55.1
12 1954 - 47.9
SHRIMP, FRESH & FROZEN, FROM MEXICO
CUMULATIVE DATA
12 MOS. 1955 - 45.8
12 1954 - 34.9
LOBSTER & SPINY LOBSTER, FRESH & FROZEN
CUMULATIVE DATA
12 MOS. 1955 - 45.4
12 1954 - 42.2
TUNA, FRESH & FROZEN
CUMULATIVE DATA
12 MOS. 1955 - 145.2
12 1954 - 123.7
SEA HERRING, FRESH, THROUGH MAINE PORTS
CUMULATIVE DATA
12 MOS. 1955 - 5.3
12 1954 - 28.3
U.S. IMPORTS OF CANNED TUNA AND TUNA-LIKE FISH (IN OIL AND IN BRINE)
CUMULATIVE DATA
12 MOS. 1955 - 50.8
12 1954 - 47.0
CANNED SARDINES (IN OIL AND NOT IN OIL)
CUMULATIVE DATA
12 MOS. 1955 - 20.8
12 1954 - 35.0
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC



FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
MDL - MARKET DEVELOPMENT LISTS
SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number Title

CFS-1251 - Florida Landings - Oct. 1955, 6 pp.
CFS-1252 - North Carolina Landings, Nov. 1955, 2 pp.
CFS-1253 - New Jersey Landings - Nov. 1955, 2 pp.
CFS-1254 - Frozen Fish Report - December 1955, 8 pp.
CFS-1255 - Massachusetts Landings - Sept. 1955, 5 pp.
CFS-1257 - Maine Landings - Nov. 1955, 3 pp.
CFS-1258 - Rhode Island Landings - Nov. 1955, 3 pp.
CFS-1259 - California Landings - Aug. 1955, 4 pp.
CFS-1260 - Mississippi Landings - Nov. 1955, 2 pp.
CFS-1261 - New York Landings - Nov. 1955, 4 pp.
CFS-1262 - Texas Landings - Nov. 1955, 3 pp.
CFS-1263 - Massachusetts Landings - October 1955, 5 pp.
CFS-1264 - Fish Meal and Oil - Dec. 1955, 2 pp.
CFS-1265 - Fish Stick Report - Oct.-Dec. 1955, 2 pp.
CFS-1266 - Texas Landings - Dec. 1955, 3 pp.
CFS-1268 - Florida Landings - Nov. 1955, 6 pp.
CFS-1269 - California Landings - Sept. 1955, 4 pp.
CFS-1271 - Rhode Island Landings - Dec. 1955, 3 pp.
CFS-1275 - Maine Landings - Dec. 1955, 3 pp.

Wholesale Dealers in Fishery Products (Revised):
SL- 1 - Maine, 1955, 6 pp.
SL- 2 - New Hampshire, 1955, 1 p.
SL- 13 - North Carolina, 1955, 6 pp.
SL- 15 - Georgia, 1955, 3 pp.
SL- 17 - Alabama, 1955, 2 pp.
SL- 18 - Mississippi, 1955, 3 pp.
SL- 22 - Oregon, 1955, 4 pp.
SL- 24 - Minnesota, 1955, 1 p.
SL- 25 - Wisconsin, 1955, 3 pp.
SL- 28 - Michigan, 3 pp.
SL- 29 - Ohio, 1955, 2 pp.
SL- 32 - Minnesota, 1955, 2 pp.
SL- 39 - Tennessee, 1955, 1 p.
SL- 41 - Arkansas, 1955, 1 p.
SL- 42 - Kentucky, 1955, 1 p.
SL- 43 - Alabama, 1955, 1 p.
SL-162 - Firms Producing Fish Sticks, 1955, 2 pp.

Market Development Lists (Revised):
MDL-18 - Iowa Locker Plants, Dec. 1955, 21 pp.
MDL-22 - Massachusetts Locker Plants, Jan. 1956, 1 p.

Sep. No. 431 - Florida Fish Marketing Study--Progress Report.
Sep. No. 432 - Michigan Locker Plant Survey.
Sep. No. 433 - Research in Service Laboratories (March 1956): Contains these short articles--"Fish Oils in Sprays for Citrus Trees;" "Mid-Winter Status of Southern Oyster Research;" "Utilization of Sea Lions Studied;" "Interim Federal Specification for Canned Crab Meat."

MISCELLANEOUS PUBLICATIONS

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(Atlantic States Marine Fisheries Commission) Minutes of the 14th Annual Meeting (November 14-15, 1955, Virginia Beach, Virginia), 199 pp., illus., processed. Atlantic States Marine Fisheries Commission, 22 West First St., Mt. Vernon, N. Y. Presents the minutes of the general sessions of the Atlantic States Marine Fisheries Commission which took place November 14-15, 1955, at Virginia Beach, Va.; joint meetings of the North Atlantic-Middle Atlantic Sections and the Chesapeake Bay-South Atlantic Sections; and section meetings of the North Atlantic, Middle Atlantic, Chesapeake Bay, and South Atlantic Sections.

Bulletin Officiel D'Information du Conseil Superieur de la Peche (Official Information Bulletin of the Council on Fisheries), Number 21, July-August-September 1955, 78 pp., illus., printed in French. Conseil Superieur de la Peche, 1 Avenue de Lowendal, Paris, France.

Bulletin of Tokai Regional Fisheries Research Laboratory (Fisheries Agency), No. 10 (Contribution B), June 1955, illus., printed in Japanese with summaries in English. Tokai Regional Fisheries Research Laboratory, Tsukishima, Tokyo, Japan. A collection of reprints covering the following subjects: marine resources; oceanography; marine propagation; fishing gear and methods; chemistry of aquatic

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products; and utilization of aquatic products such as food preservation and processing, fish oils and vitamins, and skin and leather of aquatic animals.

"Camera under the Sea," by Luis Marden, article, The National Geographic Magazine, vol. CIX, no. 2, February 1956, pp. 162-200, illus., printed, single copy 75 cents. National Geographic Society, Washington 6, D. C. Describes a recent expedition of the Calypso, a diving-research vessel, to the reefs of the Indian Ocean near Assumption Island (240 miles from the northern tip of Madagascar) and to the Red Sea, and contains many remarkable photographs in color of the underwater world.

Canadian Fish Recipes, illus., printed, 25 cents for the set of four leaflets. Queen's Printer, Ottawa, Canada, 1955. A series of bulletins published by the Department of Fisheries of Canada, containing quick and easy recipes for cooking various species of fish: (1) The Way to Cook Fish (baking, frying, broiling); (2) Fresh Water Delicacies (smelt, whitefish, lake trout, pike, pickerel, perch); (3) Oceans of Goodness (cod, ocean perch, haddock, coho salmon, halibut); and (4) The Versatile Cod (fresh fillets, salt cod).

(Department of the Interior) 1955 Annual Report of the Secretary of the Interior (For the Fiscal Year Ended June 30), 449 pp., illus., printed, indexed, $1.25. U. S. Department of the Interior, Washington, D. C. (For sale by the Superintendent of Documents, Washington 25, D.C.) This publication contains the annual reports of the various agencies of the Department of the Interior, including the Fish and Wildlife Service. Included under Fish and Wildlife Service are summaries of its various activities. Specifically discussed are utilization of the commercial fishery resources (describes the activities of the Branch of Commercial Fisheries); management of the Alaska commercial fisheries; Pribilof Islands fur-seal industry; maintenance of inland fisheries; research in fishery biology (coastal, inland, marine, and shellfish fisheries); Federal aid to states for the restoration of fish and wildlife needs; international cooperation in conservation (international technical cooperation and conservation agreements); and other activities.

(FAO) Indo-Pacific Fisheries Council Proceedings (5th Meeting, Bangkok, Thailand, 22nd January-5th February 1954), Sections II and III, pp. 113-226, illus., printed, $1. Food and Agriculture Organization of the United Nations, Rome, Italy, 1955. The full proceedings of this meeting consist of three sections (Section I reports the proceedings). Section II in this issue contains the technical papers presented at the meeting by delegations. Some of the papers relating to commercial fisheries are as follows: "Recent Studies on the Distribution and Migration of Tunas and Related Fishes in Japan" (abstract only), by H. Nakamura; "Fisheries of the Sind Coast" (abstract only), by M. R. Qureshi; "The Shrimp Industry of Singapore," by Tham Ah Kow; "The Prawn Fishery of East Pakistan" (abstract only), by N. Ahmad; "The Efficacy of Some Net Preservatives on Cotton Twines," by J. I. Sulit and P. Panganiban; "The Relation between Fish Landings and the Refrigeration Industry in Japan" (abstract only), by S. Watari; "Valeur Altimentaire des Sauces de Poisson" (Nutritive Value of Fish Sauces), in French, by R. Lafont; "The Dried Fish Industry in Cambodia" (abstract only), by Dom-Saveun; "Inshore Fish Population of the Straits of Singapore," by D. W. LeMare and Tham Ah Kow; "Fisheries Radio Network in Japan," by K. Kimura; and "Fisheries Educational Schemes in Japan," by S. Konda. Section III contains papers on marketing of fish as follows: "Fish Marketing and Financing in Australia," by The Commonwealth Fisheries Office; "Some Important Socio-Economic Problems of the Fishery Industries in Japan," by N. Oka, I. Konuma, K. Yamamoto, and M. Abe; "A Note of Marketing and Preservation of Fish in Saurashtra, India," by K. R. Srivatsa; "Problems of Fish Marketing in the State of Orissa, India," by G. N. Mitra; "A Preliminary Report on Lanmadaw Fresh Fish Market, Rangoon, Burma," by U. Ba Kyaw; "The Hong Kong Fish Marketing Scheme," by the Co-operative and Marketing Department; and "Etude sur la Commercialisation des Produits de la Peche Maritime" (A Study of the Marketing of Marine Fishery Products) in French with summary in English, by Tran-van-Tri and P. Gaillard.

Fisheries Year-Book and Directory 1955 (International Reference Book and Directory of the Fishing and Fish Processing Industries), edited by Harry F. Tysser, 446 pp., illus., printed. British-Continental Trade Press Ltd., London, England. (Available in the United States from John D. Griffiths, American Sales Director, British-Continental Trade Press Ltd., 1502 Clegg St., Greensboro, N. C.) A book on the commercial aspects of the fisheries with a wide scope. It is a valuable reference for those interested in the world's fisheries. All phases of the fisheries of the world are touched upon--catch, processing, vessels, gear, research, foreign trade, edible fishery products and by-products, and recent developments and techniques in various countries.

Articles on certain phases of the fishery industries make up the first part of the book and included are these: "The British Fishing Industry: Comprehensive Review of the Past Twelve Months;" "Notes on English Fishery Research;" "Progress Report from the Torry Research Station and the Humber Laboratory;" "Denmark's Fishing Industry;" "Iceland Fisheries and Exports;" "The Fishing Industry of Western Germany."

The chapter "Around the World" is a survey of the fisheries, fish processing, and trade in Angola, Australia, Belgium, Canada, Ceylon, France, Greece, Israel, Japan, Malaya, Netherlands, New Zealand, Norway, Portugal, South Africa, Spain, the United States, U.S.S.R., and Yugoslavia. Other chapters discuss road and transportation, fish cookery, and packaging in the fishing industry of leading countries. Also included is a fish-supply calendar, tabulated by type of fish, area of catch, and months of supply. Among the lists included are: trade journals of interest to the fishing industry; organizations and trade associations; some fishing vessels recently completed or on order; new marine

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equipment; and a Who's Who of the fishing industry. A dictionary of fish names gives the scientific, French, German, Norwegian, Danish, Swedish, and Dutch names of a considerable number of fish and shellfish. A chapter is devoted to the factory-trawler Fairtry--a vessel of advanced design equipped with an extensive processing plant and arranged for stern trawling.

The second part of the book consists of a directory divided into industry classifications, with the names of firms grouped by countries. Included are: (1) exporters and curers, quick freezers, and trawler owners; (2) importers and wholesalers; (3) fish canners and preservers; (4) machinery and equipment for fish processing, refrigeration, etc.; (5) packing machinery, materials, etc.; (6) ship builders and repairers, ship chandlers, nets and cordage, instruments, and other equipment; (7) fishery byproducts--meal, oil, vitamins, etc.; and (8) cold storage and transportation. Although these directories do not list many United States firms, the listings for other countries seem fairly extensive. Also included is a list of trade marks, descriptions of the products and merchandise under them, and the producers and distributors using them. The final list in the book is a "Buyers' Guide and Classified List of Advertisers."

Freezing Quality Foods, Bulletin 151, 27 pp., printed. Extension Service, University of Maryland, College Park, Md. Includes, among other items, instructions for the freezing and storage of fish, fish roe, crab meat, soft crabs, oysters, and clams. Seafoods deteriorate rapidly, so it is necessary to obtain absolutely fresh seafood for freezing purposes. Cleanliness is a most important factor in order to have a safe product for consumption. All fresh, firm fish to be frozen should be placed on ice or in a refrigerator as soon as possible after catching and should never be allowed to become warm.

Improved Quality and Packing of Fresh Fish as a Means of Stimulating Consumption, 76 pp., printed. Organization for European Economic Co-operation, 2 Rue Andre Pascal, Paris 16, France, April 1955. (Also available from Publications Office, O.E.E.C. Mission, 2002 PSt., NW., Washington 6, D. C.) The training course summarized in this report is one of a series of 20 training courses and workshops financed by the European Productivity Agency of the Organization for European Economic Co-operation under arrangements with the United States Foreign Operations Administration to promote the exchange of knowledge between member countries in the various sectors of food and agriculture. The present publication, the contents of which are the responsibility of the participants to the course, includes the introductory talks given by the speakers and a summary of the discussions and conclusions reached by the participants at the workshop held in Norway, June 21-26, 1954. This workshop was designed with a view to stimulating fish consumption by raising the quality of fresh fish through the proper training of key people in the best methods of handling, processing, and transporting fresh fish between the point of landing and the retail destination. The immediate purpose of the workshop, therefore, was to promote a wider dissemination of existing knowledge of improved methods of fresh fish handling and quality inspection, and to encourage the quality inspection services in European countries in their work of helping people in the industry to put the best possible methods to use; further, to allow a free exchange of ideas on common problems relating to handling and inspection practices, and to demonstrate certain types of techniques which have proved their value. This involved short introductory talks (with the use of visual aids), followed by group, panel, and general discussions. The papers presented are as follows: "The Background for and the Importance of Quality Control of Fresh Fish," by Eirik Heen; "Principles and Methods of Quality Control and Inspection of Fresh Fish," by Sverre Hjorth-Hansen; "How to Handle Fresh Fish," by Forde Bramsnaes; "Types of Packing Material and Different Methods of Packing Fresh Fish," by Johan Fredrik Grahl; "The British Fishing Industry Methods of Transporting Fresh Fish from Point of Landing to Destination," by Rodney G. Williams; and "National or International Action to Improve the Quality of Fresh Fish," by Gerhard Meidell Gerhardsen.

An Investigation of the Problem of Guiding Downstream-Migrant Salmon at Dams, by F. J. Andrew, L. R. Kersey, and P. C. Johnson, Bulletin VIII, 69 pp., illus., printed. International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada, 1955.

Managing Farm Fishponds for Bass and Bluegills, by Verne E. Davison, Farmers' Bulletin 2094, 20 pp., illus., printed, 15 cents. U. S. Department of Agriculture, Washington, D. C., November 1955. (For sale by Superintendent of Documents, Government Printing Office, Washington 25, D. C.)

"Menhaden, Gold Mine with Fins," by Bill Wisner, article, Fishing Long Island Waters, vol. 7, no. 2, Feb.-Mar. 1956, pp. 13-14, 28, 31, illus., printed. Essy Publishing Co., Inc., P. O. Bldg., Whitehouse Ave., Roosevelt, Long Island, N. Y. Describes briefly the life history of the menhaden, Brevoortia tyrannus, methods of capture, size of the fishery, and industrial uses of the menhaden.

"A New Method of Attaching Petersen Disk Tags with Monofilament Nylon," by John E. Randall, article, California Fish and Game, vol. 42, no. 1, January 1956, pp. 63-67, illus., printed. California Department of Fish and Game, Sacramento, Calif.

Precooked Frozen Foods, 80 pp., illus., printed. Quartermaster Food and Container Institute for the Armed Forces, 1819 W. Pershing Road, Chicago 9, Ill., December 1955. A report of the symposium on precooked frozen foods, sponsored by the Quartermaster Food and Container Institute for the armed forces, which was held in Chicago on May 20, 1954. The purpose

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of this symposium was to learn the present status of knowledge of precooked frozen foods, including fishery products, and to point out the problems remaining to be solved. Papers are presented on the use of precooked frozen foods in the armed services and in industry; preparation and processing of precooked frozen foods; and quality control, stability and microbiological aspects of precooked frozen foods.

"Rearing Larval Scombrid Fishes in Shipboard Aquaria," by Harold B. Clemens, article, California Fish and Game, vol. 42, no 1, January 1956, pp. 69-79, illus., printed. California Department of Fish and Game, Sacramento, Calif.

"Should Shrimp and Game Fishes Become More or Less Abundant as Pressure Increases in the Trash Fish Fishery of the Gulf of Mexico?" by Dr. Gordon Gunter, article, Louisiana Conservationist, vol. 8, no. 4, January 1956, pp. 11, 14-15, 19, illus., printed. Louisiana Conservationist, 126 Civil Courts Bldg., New Orleans, La. The author describes the "trash fish" fishery of the Gulf of Mexico, which is centered about the middle northern Gulf, and summarizes his remarks by saying "(1) There is no evidence that a greatly enlarged trash fish fishery will have a harmful effect upon sport and commercial fishes or shrimp; (2) There are some indications that any influence of such a fishery will be minor in comparison to other factors now operative; and (3) There are some indications that the trash fish fishery could, conceivably, be beneficial to the shrimp."

(Virginia) Fifty-sixth and Fifty-seventh Annual Reports of the Commission of Fisheries of Virginia (Fiscal Years Ending June 30, 1954 and June 30, 1955), 56 pp., illus., printed. Commission of Fisheries, Newport News, Va., 1955. Describes the oyster, crab, and fishery industries of Virginia and gives statistical data on the number of bushels of oyster shells planted by the Commission of Fisheries in its repletion program. Includes reports of the Superintendent of Hatcheries covering the shad-hatching work on the Chickahominy, Mattaponi, and Pamunkey Rivers for 1954 and 1955. A report from the Virginia Fisheries Laboratory describes its activities for the period July 1953 through June 1955, with special reference to the oyster, blue crab, and migratory fishes. Also shows the revenue derived by the State from the fish and shellfish industries under supervision of the Commission of Fisheries of Virginia and also the expenditures of the Commission.

Editorial Assistant--Ruth V. Keefe Illustrator--Gustaf T. Sundstrom

Compositors--Jean Zalevsky, Alma Greene, and Helen Joswick

* * * * * * *

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VOLUME MARKETS FOR FISHERY PRODUCTS--LOCKER PLANTS

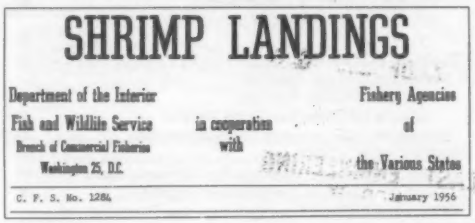
The locker-plant industry is steadily developing into an important volume market for frozen fishery products. Symbolic of this trend is the change in emphasis--a locker plant is now classified in the trade as a "Frozen Food Center."

In a survey of the frozen food centers or locker plants in New Jersey in 1954, U. S. Fish and Wildlife Service fishery marketing specialists found that only 26 plants out of a total of 54 sold fishery products. Yet, these 26 plants sold 163,970 pounds of fishery products annually, an average of 6,300 pounds a plant each year, or about 525 pounds per plant a month. If each of the almost 11,000 locker plants in the United States were to sell 525 pounds of fishery products a month, the locker-plant industry would provide a market for $5\frac{3}{4}$ million pounds of fishery products a month or 69 million pounds annually. Because of this tremendous potential, the Service's educational and market development program includes working closely with members of this industry.

INT.-DUP. SEC., WASH., D.C. 96436

SHRIMP LANDINGS

The first of a new monthly statistical bulletin--Shrimp Landings--was issued early in March 1956 by the U. S. Fish and Wildlife Service's Branch of Commercial Fisheries in cooperation with the fishery agencies of the Gulf States. This new bulletin will contain information on the quantity and value of the landings of shrimp in the Gulf States (Florida west coast, Alabama, Mississippi, Louisiana, and Texas). The area covered will be extended to include the South Atlantic States as soon as it is practicable.


SHRIMP LANDINGS

Department of the Interior
Fish and Wildlife Service
Branch of Commercial Fisheries
Washington 25, D.C.

in cooperation with

Fishery Agencies of the Various States

C. F. S. No. 1284 January 1956

Shrimp Landings, January 1956 (C.F.S. No. 1284) shows that receipts of shrimp in the Gulf States in January 1956 amounted to 5.3 million pounds (heads off), valued at nearly $3.3 million ex-vessel.

Information is presented showing eight size classifications for each of the three commercially important species. Although not included in the published report, more detailed data on the catch by species and size, by depth and area of capture, number of trips, and days fished are maintained on a current basis in the Washington office of the U. S. Fish and Wildlife Service and are available upon request.

Shrimp boats tied up at Pascagoula's City Dock waiting unloading or re-icing.

Of the total Gulf shrimp landings reported for January of this year, the west coast of Florida ports led with nearly 2.7 million pounds (valued at $1.8 million ex-vessel). This was 50 percent of the quantity and 54 percent of the value of all shrimp receipts at Gulf ports during January. Texas ports were in second place with 1.4 million pounds, followed by Louisiana with almost 1.0 million pounds, and Mississippi with more than 0.1 million pounds.

The information contained in these reports is collected in connection with detailed, statistical, economic, and biological investigations of the shrimp fishery financed with funds provided by the Saltonstall-Kennedy Act (68th Stat. 376). The data are obtained from shrimp dealers and by personal interviews with vessel operators.

This bulletin is available free from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.